

# Rubber & Plastics News

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## Successful first decade

### ARPM tops century mark in members, looks to bright future

By Andrew Schunk  
Rubber & Plastics News Staff

INDIANAPOLIS—The Association for Rubber Products Manufacturers has come a long way in its short, 10-year existence.

With access to international standards, training, cost-reduction programs, networking, industry benchmarking data, a COVID-19 resource center and more, ARPM has grown from a somewhat inauspicious beginning into an association that non-tire rubber product businesses find of value, according to officials and members of the organization.

That value-added philosophy has not gone unnoticed, as the decade-old non-profit recently exceeded the century mark with its membership, adding its 100th and 101st members in April.

“Oh man, this is truly bubbles and champagne, you don't know how hard this has been,” said ARPM Executive Director Troy Nix, who along with a few key original members established ARPM 10 years ago. “We basically started a new company, and it is not easy to start a company like this. In some instances, it might be easier to have a product to sell. We didn't have anything. We had to create everything from scratch.”

The Indianapolis-based group may not have had a product to sell, but its commodity was value—something Nix learned from his time establishing another



Troy Nix has been executive director of the ARPM since its founding in 2010.

industry non-profit in 1996, for which he also serves as executive director.

ARPM came into being after branching off of the Rubber Manufacturers Association, which at the time mostly focused on its tire manufacturing members.

Essentially, the non-tire folks needed to find a new home to share information and best practices. There were 35 members in the old General Products Group

under the RMA, and ARPM did not convert all those companies in its nascence, Nix said.

He cited a culture change at his alma mater, the United States Military Academy at West Point, as having helped its academic recruitment by upping the rigors and selecting quality over quantity. It was a similar change in culture that was needed in the non-tire group.

“When we're talking about culture, you can change any culture,” Nix said. “The Academy had an attrition rate where it would thin itself—and now selects its cadets by merit, with early screenings. They switched to leadership development, and there are fewer cadets.”

Nix said he was approached in the middle of 2010 by Charlie Braun, president of Cleveland-based Custom Rubber Corp.; Regan McHale, president of Cuyahoga Falls, Ohio-based Eagle Elastomers Inc.; and Bernard Gregoire of Toronto-based Hamilton Kent Inc. to establish a new non-tire presence using the same basic structure and guidelines that Nix used in organizing previous industry groups.

Custom Rubber and the other founding members of ARPM all were part of the now-homeless GPG, Braun said.

“A number of things happened that led ultimately to the joint decision by the tire members and the GPG that

See **ARPM**, page 22

Read about ARPM's Rubber Industry Pulse Survey. Page 17.



## USW seeking tire trade relief again

### Union petitions DOC for duties against more Asian importers

By Bruce Davis  
Tire Business

WASHINGTON—The United Steelworkers union has turned its crusade to protect U.S. tire workers from “dumped and subsidized” passenger and light truck tires on four new targets—South Korea, Taiwan, Thailand and Vietnam.

In antidumping and countervailing duty petitions filed May 12 with the Department of Commerce and the International Trade Commission, the USW alleges dumping margins on these types of tires as high as 217 percent for Thailand, 195 percent for South Korea, 147 percent for Taiwan and 33 percent for Vietnam.

The petitions also detail what the USW claims are “numerous” government subsi-

dies benefiting Vietnamese tire producers, including loans, tax breaks and grants.

Passenger and light truck tire imports from these four countries totaled 85.3 million tires last year, up nearly 20 percent from 2017, according to Commerce Department figures. That total equals roughly 38 percent of the U.S. aftermarket for those products.

The imports were valued at \$4.4 billion last year, up nearly 32 percent over 2017.

“This deluge of unfairly traded imports hurt our domestic industry and workers, including many

See **Petitions**, page 19

### Tire firms argue tariffs would boost prices, hurt consumers

By Bruce Davis  
Tire Business

Most companies potentially affected by the United Steelworkers' petitions for import duties on passenger and light truck tires from South Korea, Taiwan, Thailand and Vietnam are, for now, reserving comment on the issue.

Those who did comment, however, focused on a couple of issues: higher prices for consumers and their own long-term heritage of service to U.S. consumers.

Tariffs on tires imported from the targeted countries would be “bad for the consumer and for our overall

economy,” said Greg Hathcock, president of Vogue Tyre & Rubber Co.

Hathcock noted the similarities to the union's action in 2009—when the U.S. under the Obama administration elevated import duties on Chinese passenger and light truck tires for three years. “It will result in higher tire prices without generating new jobs,” he said.

The 2009-11 action is estimated to have cost consumers more than \$1.1 billion in price increases and other costs while saving approximately 1,200 jobs at U.S. tire factories (at a cost of \$926,000 per job), according to Hathcock. At the same time, he said, the moves eliminated approximately 2,500 retail jobs across all industries due

See **Tariffs**, page 19

Thailand now top source of U.S. tire imports. Page 18.

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## Rubber & Plastics News



NewAge is adding new locations.

### NewAge expansion plans bring 2 new buildings

By Sarah Kominek  
Plastics News

SOUTHAMPTON, Pa.—NewAge Industries Inc. purchased two building units at a location seven miles away from its Southampton headquarters intended for production capacity expansion and office space.

The manufacturer of rubber, silicone and plastic tubing, hose and molded components plans to renovate the space for tubing extrusion equipment and injection molding presses, according to a May 26 news release.

The company plans to maintain the additional manufacturing facility “in case of any potential disruption at the main plant.” Demand for NewAge’s products “is high,” the release said, “especially during this pandemic, and NewAge needs to ensure capacity to produce more inventory.”

“It’s growth for the company and a fail-safe,” NewAge CEO Ken Baker said in the release. “Some of our customers have expressed concern about security of supply. Being able to make our products at multiple locations not only lets us increase our output but helps ease those concerns.”

NewAge said it plans to use the new facility primarily for the manufacturing of high purity tubing and molded assemblies for its AdvantaPure division, which supplies biopharm and pharmaceutical manufacturers with single-use fluid transfer systems.

NewAge plans to begin renovations at the new location this summer and hopes to move in, test and validate manufacturing equipment sometime in 2021.

The two building units have 46,000 square feet of manufacturing space and 3,000 square feet of offices. In addition to tubing extrusion machinery and injection presses, the manufacturing area will have clean rooms for manufacturing and packaging, and quality inspection areas, the release said. NewAge will inventory and ship products directly from the new location.

The company expects to double manufacturing capacity for its AdvantaFlex TPE tubing in the short and long terms to triple capacity, the release said. Silicone tubing manufacturing capacity also will increase substantially.

### Inside this edition



### Carbon black special report

**10** Coming into 2020, carbon black producers were looking for a stable year. So far, it’s been anything but.

## In focus

# Conti ramps up tire production

By Jim Johnson

Rubber & Plastics News Staff

FORT MILL, S.C.—Continental A.G. is ramping production back up around the world, and while some things have changed thanks to COVID-19, others remain the same in the tire making business.

Benny Harmse is vice president of manufacturing for Continental Tire the Americas and oversees operations in both North America and South America from Fort Mill.

While each of the company’s manufacturing sites around the world need to adhere to local regulations in restarting operations, there are lessons learned that facilities can share with one another, he said.

“We’re getting back to business,” Harmse said in an interview with *Rubber & Plastics News*. “Of course, it looks a bit different than it did prior to the COVID incident. We have a global safety team, which set up protocols and guidelines. We did an assessment on each location that we have.”

Social distancing is becoming common as people look to keep themselves safe both inside and outside of work. And so are masks.

That’s certainly true at Continental. But the manufacturing floor can create some unique challenges in trying to keep people physically separate.

That’s where the liberal use of plexiglass comes in. Just like at retail stores around the country, Continental has created physical barriers between workstations as needed to help keep its employees safe.

“We took advantage of when we shut all of the plants. We used time for some of the maintenance to put up plexiglass,” Harmse said. “When people came back, we were ready for them. It wasn’t a big deal, to be honest. It wasn’t as difficult as we were worried about getting supplies.”

Continental had no problems sourcing both the plexiglass needed at its facilities as well as enough masks for all their employees to use, Harmse said.

“All of our plants are running,” he said. “What we did do is we’ve ramped them up a little bit slowly, not to bring all of the people on board immediately. We staggered shifts, staggered the number of people coming in.”

This allowed Continental to train workers about new ways of protecting themselves while working.

Some jobs can be done from home. But making tires is not one of them. Employees who must be on the plant floor are being brought back in waves to make



Benny Harmse, vice president of manufacturing for Continental Tire the Americas, oversees production in both North America and South America.

sure they can be trained to work under new conditions.

“I don’t think it’s going to make a huge difference on the plant floor,” Harmse said about how people will be able to perform their jobs under the new conditions. “I think social distancing will be something that people naturally will do for a long time. It will take some time to get back to normalcy. People are talking about what the new normal is, and in the manufacturing world, I don’t see too much of a change.”

Certain functions and activities can be adapted to a new approach—virtual meetings and travel restrictions, for example. But, Harmse said, “we need to keep running the business. There will be some changes around that, but you’ve always got to find a balance. The majority of our people need to be on the shop floor producing. We have to make sure we keep the balance in how we treat everybody in the same manner.”

Even as Continental reopens amid COVID-19, Harmse repeatedly stressed that the health and safety of the company’s employees is paramount. With that in mind, employees have been respectful and disciplined when it comes to new work rules. “I think people generally feel the reality of the situation,” Harmse said.

“It’s not always easy. I think the team has done a really good job with communicating, staying in contact with our employees, telling them what’s going on so when they came back they knew what to expect. We put them through training when they came back. I was very pleased with the preparation,” he said.

Operations in North and South Amer-

ica have benefited from being part of the larger Continental organization. Officials in the region saw other company facilities around the world close first, but then also reopen first.

“We have facilities in Asia. We watched what happened in Asia and we saw that continue in our European region. Americas was the last to be hit,” Harmse said. “We were the third region, so we could learn a little bit from them.”

But even within regions, not all facilities are returning at the same pace, as they must deal with local conditions and situations.

As employees resume to tire making, Continental is seeing an increasing demand in the replacement market as economies around the world begin to expand. Business with original equipment manufacturers—the automotive companies—is a bit more unpredictable at this point, Harmse said.

“That portion of the business may be a little bit slower going forward. It all depends on their performance and how they go forward,” he said. “It varies, again, from region to region and location to location.”

Continental said most of its workers have been ready to return to their jobs.

“People want to come back to work. It’s really positive. There’s always a few people who are a little bit hesitant. But I think we’ve provided all the safety measures to make them feel comfortable,” he said.

Along with the need to earn paychecks, employees also look forward to their return because of the social interaction jobs provide. “I think that’s an important part of the story,” Harmse said.

## Nokian names new CEO to replace Korhonen

NOKIA, Finland—Hille Korhonen, president and CEO of Nokian Tyres P.L.C. since 2017, has stepped down, and the company has reached outside its corporate ranks for her successor, Jukka Moisio, former president and CEO of global packaging company Huhtamaki Oyj.

Moisio’s appointment was effective May 27.

During her three years as Nokian’s top executive, Korhonen presided over an ambitious expansion program that has yielded a factory in the U.S. and a tire proving grounds in Spain, which collectively represent nearly \$400 million in investments.

Korhonen, 59, did not comment publicly on her reasons for stepping down.

Moisio, 59, is described as having a “strong background” in leading international companies. He was Huhtamaki’s top exec-

utive for 11 years (through April 2019), and prior to that was president and CEO of Ahlstrom Oyi for four years.

Nokian Chairman Jukka Hienonen said Moisio “has a proven record in successfully leading stock listed companies and company turnarounds, delivering strong financial performance and shareholder returns.” He also noted that Moisio has the “experience and capabilities to lead the company to its next phase of development.”

Moisio called Nokian a “great company with fantastic products, a valued brand and leading position in its home markets, and a lot of opportunities for development.”

Korhonen was named president and CEO in March 2017, filling a post vacated in late 2016 by Ari Lehtoranta. She had been a Nokian board member 11 years before stepping into the CEO role.

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## COVID-19 The coronavirus pandemic

# Polyhose focuses on long term despite pandemic

By Andrew Schunk  
Rubber & Plastics News Staff

CHENNAI, India—When an unforeseen crisis like the coronavirus pandemic strikes, the tendency can be to try to resolve immediate rather than long-term issues.

The key, according to the leadership team at Polyhose Inc., is to strike a balance between the two philosophies, one that prioritizes the safety and well-being of its more than 2,000 employees, yet remains flexible enough to keep its operations, and its bottom line, afloat during volatile times.

“Polyhose has a long-term commitment, even during a global financial crisis,” said Senior Vice President Jonathan Pressler. “Polyhose will always keep a long-term perspective. This really is a plus. The company’s expenditures into research and development and their commitment to quality doesn’t waiver during this time of financial volatility, and that’s very refreshing.”

The global hose manufacturer also demonstrated its commitment to its work force during the pandemic, as a majority of Polyhose’s employees live in northern India and are housed at the company’s campus in southern India for periods of time. All of the company’s manufacturing is done across 1 million square feet of production space in India.

There have been no cases of COVID-19 at any of the company’s facilities, either in India, New Jersey, South Carolina, Europe, the Middle East or Asia, according to Polyhose President Fatima Mohammed.

When the pandemic struck, the Indian government instituted a “Section 144,” which essentially put in place a curfew for everyone in the country, where no more than five or six people could congregate at a time, said Raja Rajagopalan, the firm’s senior vice president of distribution and sales.

Polyhose closed for 40 days, with many of its workers relegated to their campus homes.

“Even when we were allowed to open, we maintained protective gear for all our employees,” Rajagopalan said. “But Polyhose really went above and beyond, as we provided masks for both our employees and the local community. Since the stores were closed, we got veggies and food for the workers housed near the plants and placed the food on their door steps.”

Polyhose reopened in India in mid-May, and is operating at between 80 and 85 percent as it ramps up once again,



Workers at the recently re-opened Polyhose Inc. plant in India practice social distancing at their workstations.

Mohammed said.

“They wanted to ease restrictions up earlier, but then things shot back up again,” Mohammed said. “But now, this week and the end of last week, we have started to function fully, more or less.”

Some employees returned to their Northern India homes for various reasons—health concerns, concerns for family members—and have not yet returned to Polyhose in the south, but most of the work force is back on the floor, Mohammed said. No staffing changes are anticipated because of the pandemic, according to Polyhose.

“The company is taking measures to ensure their safety,” she said.

While the pandemic’s impact in Asian and European markets—namely oil and gas—was “significant,” the company remains strong financially, with cash on hand and proper liquidity, said Mohammed Millwala, vice president of operations at Polyhose.

“Financially the company is very strong,” Millwala said. “We were able to support employees while managing our overhead and associated costs.”

Some orders in the aforementioned markets were unable to ship due to shutdowns farther down the supply chain, and the timing of the oil “war” between Saudi Arabia and Russia “could not have come at a worse time,” Rajagopalan said.

But in North America, the hose market remained strong, buoyed by Poly-

hose’s foresight to keep capacity (mainly for the paint spray industry) on hand in New Jersey and South Carolina. And as the construction industry goes, so goes the paint spray market.

“North America really was unaffected for us, given that the paint spray industry business—focused in construction—remained at the same level in North America throughout the pandemic,” Rajagopalan said.

With stock on hand before the pandemic hit, it was easy to meet customer orders when other markets became strained, he said.

“There was no expectation of shipments coming from India (where all the manufacturing is done),” he said. “That’s one of the key aspects of the locations in North and South Carolina, and one of the main reasons we are investing in North America. We want a piece of the pie.”

And Polyhose sees even those strained hose markets, such as transportation, returning before long to meet the booming agriculture and construction segments.

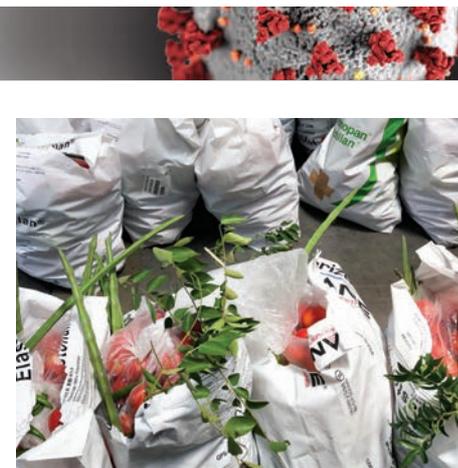
“Polyhose is positioned to capture growth in all these markets,” Rajagopalan said. “Once again, Polyhose maintains a long-term view. The company is very sound. Pandemic or not, Polyhose has been a leader in the field. The best part of private ownership is it is in the DNA of the owners within the company. The financial ‘quarter mentality’ is just not there. It is a long-term view.”

### U.S. expansion moving forward

For Polyhose, an expansion into Pender County, N.C.—and the overall U.S. and North American markets, the largest in the hose industry—can be attributed to the company’s strong standing within the global hose community, according to company officials.

The hose manufacturer is looking to build a warehouse and assembly center just outside of Wilmington, N.C., bringing 51 jobs and investing nearly \$8 million in the facility over the next several years. Phase I will comprise a 50,000-sq.-ft. facility, set to begin in the fourth quarter of 2020 or early in 2021, while Phase II will include another 50,000-sq.-ft. addition in the coming years.

In addition, a satellite facility is planned



Polyhose Inc. distributed bags of fresh veggies and food to its workers who remained on the Polyhose campus during a 40-day shutdown.

for the hose maker’s warehouse in South Carolina in the coming years, said Pressler, who will be based at the Wilmington location.

“These spots are all centrally located in the U.S., with very good access to transportation and infrastructure,” Pressler said. “North Carolina is a great state for business with a quality work force, compared to other areas. There exists a very good local government, community college and other amenities.”

Rajagopalan said the company’s willingness to keep capacity on hand in North America allows Polyhose to serve all types and sizes of customers with its hose lines.

“When you look at North Carolina and the warehouse,” he said, “we believe in carrying stock in North America so we can cater to smaller distributors—not selling by containers, but rather allowing customers to draw from our volume and buy product quickly with access to what’s on the shelf there. This is just a much different approach to business.”

Polyhose’s innovative thinking perhaps is best demonstrated by its \$5 million per year investment in research and development.

“There is constant investment every year with product lines,” Millwala said. “Some companies specialize in certain things, and Polyhose can offer these items at a high quality and excellent price. Manufacturing in India allows us to be competitive with quality. It’s just part of the culture to do that.”

Prioritizing R&D has given the company one of the more diverse product portfolios in the hose industry, from rubber and thermoplastic hoses to PTFE (polytetrafluoroethylene, or Teflon) and stainless steel, often used in hydraulic fluid transfer systems.

Millwala said the company has developed hoses for specialty applications, such as extruded, 3-channel medical tubing for its relatively new medical division.

There is a wide range of hose sizes offered at Polyhose as well, Rajagopalan said.

“The range and quality control is phenomenal, there is a true culture of innovation and quality that permeates the entire organization,” he said. “It’s why we continue to invest in innovation.”

The North Carolina facility will be built in an industrial corridor along U.S. Route 421, for hose assembly and distribution. Infrastructure already is in place, Pressler said, and Wilmington has the added benefit of being a seaport.

Wages for the employees at the Pender County location will average \$38,216 per year, according to a news release from the North Carolina governor’s office. A \$75,000, performance-based grant from the One North Carolina Fund will assist Polyhose with its operations.

Polyhose, which began with a lone thermoplastic division in 1996, maintains contracts with Boeing, Caterpillar, Graco and Wagner SprayTech, among many others, according to the company.



Polyhose Inc. employees wear masks to prevent the spread of coronavirus. Polyhose also distributed masks to the community at large in Chennai, India.

# Rol-Tec boosts offerings with Axis Machine purchase

By Mike McNulty

Rubber & Plastics News Correspondent

GREEN BAY, Wis.—Rol-Tec Inc. has significantly expanded its capabilities and product portfolio with the acquisition of high precision grinder Axis Machine Co.

Axis Machine, which is based in a 20,000-sq.-ft. facility in Green Bay just one block away from Rol-Tec's headquarters and plant, will operate as a division of Rol-Tec out of its present factory.

Rol-Tec produces rubber and cast urethane roller coverings, tungsten carbide roller coatings, urethane molded parts and laser engraved rubber coverings, and is a provider of roller machining services. The deal extends its offerings to include precision-ground chrome, tungsten and metal rollers with the acquisition, said Matt Umentum, Rol-Tec president and CEO.



Umentum

He added that the equipment needed "to do this type of work is large and very expensive. We will now also have expanded surface grinding capabilities."

Financial details of the transaction, which closed May 1, were not disclosed.

Five of the six Axis Machine employees have been retained; the sixth has reached retirement age and is moving on from the company. Umentum said he anticipates up to 10 additional jobs will be added within the next year.

"We will retain the office staff so orders continue to flow smoothly," he said. "The previous executive team will not be retained. We will be bringing in Rol-Tec management to 'cross pollinate' our systems and culture to Axis Machine along with our sales and customer service teams."

Umentum will serve as president and CEO of both operations.

He said the acquisition allows Rol-Tec, which operates out of a 70,000-sq.-ft. plant in Green Bay and employs 70, to be a single source provider for both rubber covered and precision ground rollers, both of which are used in many industrial applications.

"One of the major assets that Rol-Tec will bring to Axis Machine is an experienced team of sales and customer service advisers," Umentum said. "Our team is proficient in identifying those customers and industries that can benefit from the umbrella of unique services Rol-Tec offers."

"In the past, we have identified industries such as flexographic printing or blown film, and made targeted efforts to acquire equipment and experienced people to provide complete roller services and molded parts to these specific industries. The Axis Machine acquisition helps us complete our offerings with skilled metal grinding craftsmen to many targeted industries deeper in the supply chain."

Axis Machine has more than 20 years of experience in outside diameter, inside diameter, cylindrical and centerless grinding, and can precision-grind rollers more than 20 feet in length. It produces metal rollers and machine parts used in flexographic printing, paper making and coating operations.

An added bonus for Rol-Tec is that Axis Machine's offerings are used by many of the same customers that Rol-Tec serves.

"Axis Machine has been a longtime valued supplier to Rol-Tec and is widely recognized as the highest quality precision grinding company in the region," Umentum said. "The most important assets are the people. It takes years to

become a roll finishing expert."

He said that now more than ever, manufacturers "are seeking suppliers that can handle all of their needs in a given category. The Axis Machine purchase helps us achieve a comprehensive product offering of precision rollers and parts to critical original equipment manufacturers and manufacturers throughout the world."

Umentum acknowledged it might seem to be an odd time to purchase a company, "but we have been working on this acquisition for quite some time. Many of our customers are adjusting production to make critical personal protection products to stem the COVID-19 pandemic. This acquisition allows us to more efficiently service those customers and to help keep

their operations going."

Overall, because rubber roller companies serve many essential manufacturers in the U.S., the rubber roller market has been doing well, he said. "Some industries that we serve, like oil and gas, have been slow, but other markets have been extremely busy and have more than filled the gaps."

Rol-Tec has seen orders rise dramatically from producers of paper products and film, Umentum said. "At the beginning of the pandemic, our sales orders spiked with businesses scrambling for rollers and parts to fully stock their spare parts inventory. Now, as the end of the crisis nears, we are seeing sales ease back to a more reasonable level."



Workers at the Axis Machine operation purchased by Rol-Tec measure the outside diameter of the precision ground chrome roller. The facility has the capability to precision-grind rollers more than 20 feet in length.

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# Feeling the wrath of nature

State of Michigan photo

Dow Inc.'s brine pond that sits to the north of three tertiary wastewater treatment ponds was inundated with the flooded Tittabawassee River.

## Michigan flooding impacts Dow site, other area operations

By Frank Esposito  
Plastics News

MIDLAND, Mich.—Major flooding in Michigan forced Dow Inc. to evacuate most workers from its Midland headquarters site May 19, but within days officials said recovery was under way.

Two dams failed following days of heavy rain on May 19, flooding the Tittabawassee River, destroying homes and flooding Midland. The river crested 11 feet over flood stage.

In a May 20 statement, Dow said its local emergency operations center had been fully activated and it implemented its flood preparedness plan. It also partnered with the U.S. Coast Guard to activate emergency plans when floodwaters commingled with on-site containment ponds.

By May 21, however, Dow officials said that flood waters had crested and that the firm's focus had shifted "into a clean-up and recovery mode."

"We have begun implementing site recovery plans and will continue to advance site assessments as the situation safely allows," officials said. "This plan includes an inspection of all facilities and remediation assets along the Tittabawassee River as flood waters recede."

They added that no product releases or employee injuries have been reported.

Officials also said that although flood waters mingled with an on-site brine pond, the material from the pond doesn't create any risk to residents or the environment.

*Crain's Detroit Business*, a sister publication of *Rubber & Plastics News*, reported that the ponds cover 200 acres of Dow's 1,900-acre property in Midland. The ponds collect wastewater that is filtered before being discharged into the

Tittabawassee. The river flows into the Saginaw River and from there into Lake Huron.

Even as the water was rising, Dow officials said all operating units on site were safely shut down, except for facilities needed for safely managing chemical containment. All rail cars also were secured.

Dow assets on site include silicones as well as research and development operations and tenant assets. The silicones assets haven't been impacted by flood waters, but were shut down because of lack of access to needed infrastructure.

"While we are in the early phases of recovery, we currently do not expect our Midland silicones assets to be offline for an extended period of time," the firm said. "Business continuity plans are in place to ensure customer needs are met."

The emergency began when the 96-year-old Edenville Dam failed after 6 p.m. on May 19. Water that had made up Wixom Lake then overwhelmed the 95-year-old Sanford Dam downstream.

An estimated 11,000 residents near Midland were told to evacuate when the dams failed.

*CDB* reported that the Edenville Dam had been rated in unsatisfactory condition by the state in 2018. That same year, the Federal Energy Regulatory Commission revoked the license of the company that operated the dam because of noncompliance issues, including spillway capacity.

The 95-year-old Sanford Dam received a fair condition from the state in 2018, according to *CDB*.

Midland is a city of 42,000 in central Michigan. Dow, one of the world's largest elastomers, plastics and chemicals makers, has operated in Michigan since 1897.

According to a Dow website, polymers made by the firm in Midland are used in food and liquid packaging. Other products made in Midland include adhesives for automotive bonding; coatings for airbags; herbicides and insecticides for agriculture; beauty, hair and personal care ingredients; and health care materials for medical devices, drug delivery and pharmaceutical tubing.

Dow's Michigan operations include production of plastics and specialty chemicals, as well as major R&D assets. Several other firms have operations at the Dow complex, including DuPont, Corteva Agriscience, Trinseo and SK Saran.

### Recovery, relief support

Trinseo maintains office and production operations in Midland, where it makes latex and acrylonitrile butadiene styrene. A spokesman said the situation still is being assessed and declined further comment, referring to Dow's statement regarding the facility and complex.

Cabot Corp. operates a fumed silica manufacturing plant near the Dow facility in Midland. This plant was not

damaged by flooding, and all Cabot employees are safe, according to a Cabot spokeswoman.

"The team proactively took the site down to a safe state (on May 19) as the flooding continued and breaches of dams were becoming a certainty," the spokeswoman said in an emailed statement. "Our facility is not expected to take on any water at this time, but our facility will remain in a safe state until our fence line partner, Dow, is ready to supply our utilities and receive our waste streams."

The AptarGroup, a global producer of dispensing systems in the liquid silicone molding industry, said its Midland facility is not expected to be impacted by the flooding.

However, the lives of some of its employees have been upended due to the resulting mandatory evacuations, according to an Aptar spokeswoman.

The company, which is not in immediate proximity to the flood-ravaged areas where residents were evacuated, did close May 19 and May 20 to support evacuation and flooding relief efforts, she said.

"Our thoughts are with our Aptar teammates and everyone in Midland who has been impacted by the terrible flooding," the spokeswoman said. "We are focused on the safety and support of our people as we do have some employees who live closer to town and were safely evacuated."

Aptar Midland reopened May 21. "At this time, we do not foresee an impact in the supply chain from raw materials through to production of our products for our customers," she said.

The company is providing a \$20,000 donation to the Michigan Red Cross in support of the Midland Flood Relief Campaign, and any additional contributions from U.S. Aptar employees will be matched by Aptar, Reardon said.

Dow, likewise, is supporting flood relief and recovery efforts, saying May 22 it will provide a \$1 million donation.

"Michigan's Great Lakes Bay Region has been Dow's home for more than 120 years, and we are committed to helping our employees and our neighbors as we recover from this historic flood," said Jim Fitterling, Dow chairman and CEO.

The funding includes \$250,000 for a new Dow Employee Assistance Fund at the Midland Area Community Foundation to help Dow employees who have suffered emergency hardship from the flooding. It also includes \$250,000 to the United Way of Midland County's Rise Together Fund, providing resources for thousands of families throughout Midland County who were impacted by the events. These funds will be matched by the Herbert H. and Grace A. Dow Foundation.

*Rubber & Plastics News* staff members Jim Johnson, Andrew Schunk and Erin Pustay Beaven contributed to this report.



State of Michigan photo

Flooding resulted from the overrun Edenville Dam, which caused damage in Midland, Mich., and surrounding areas.

## Lenk: Flooding evacuation like a scene from a movie

By Bruce Meyer

Rubber & Plastics News Staff

SANFORD, Mich.—For Charles Lenk, vice president of Laur Silicone Inc., it was like a scene out of movie.

But as he and his wife were forced to evacuate their home in Sanford, not once but twice to escape the flooding that hit Midland County May 19, it was a real tale they were living.

"It's pretty devastating up here," Lenk said. "The town of Sanford is pretty much gone. ... People don't have houses, people don't have businesses. It's pretty bad, a sad situation."

Lenk was luckier than many others in the Sanford and surrounding areas, as his home was high enough to avoid damage.

Heavy rains May 19 flooded the Titta-

bawassee River. This caused the Edenville Dam to fail that evening, and water that had made up Wixom Lake then overwhelmed the 95-year-old Sanford Dam downstream. Lenk said the Sanford Dam didn't collapse, but the overflow safety wall built several years ago gave way because it couldn't hold the pressure, and all the water rushed downstream.

The Lenks live on Sanford Lake, about 2 miles north of the dam. "We live on the water, but we don't have any water anymore," he said.

Lenk and his wife first were told to evacuate about midnight on May 18, when there was word of the possibility of a breach of the Edenville Dam. About 4

See **Flooding**, page 7



Photo courtesy of Charles Lenk

When the Sanford Dam gave way, water immediately rushed downstream, causing disastrous impacts to properties south of the dam.

# Flooding

Continued from page 6

a.m., the dams were deemed safe and sound, so they returned home.

Lenk then worked all day May 19—Laur Silicone is about 15 miles northwest of Sanford in Beaverton, Mich.—and returned home that evening. He re-tied his pontoon boat because water was coming up, and he needed to give the line more slack.

As soon as he went back in the house and sat down—it was about 6 p.m. at this point—the alarms on their cell phones went off, saying the dam had breached and to evacuate immediately.

“By the time we got out, which was a matter of 15 minutes at most, there were fire trucks going through the neighborhoods, screaming at people to get out of their houses. It was utter chaos for awhile,” Lenk said. “It’s like something you’d see in a movie. It’s just amazing the number of cars that were just streaming out of the towns. But everybody got out before the water got here. That was a good thing.”

He, his wife and their dogs evacuated safely to their son’s home in Midland, about 10 miles away. The next morning he made his way back to the house, not knowing at that point what he would find. The normal 15-minute trip took 1 1/2 hours because of detours caused by closed roads and washed-out bridges, Lenk said.

“My home was high and dry. Water came up from the normal level, it came up probably 15 feet, but it didn’t get to the house,” he said, because when the Sanford Dam was compromised all the water immediately traveled downstream.

“My pontoon was flipped right over on its top, sitting on the mud bottom of the river. My neighbor across the water, his pontoon is sitting in his back yard up on a bunch of rocks. People are still looking for some of their boats. Motor homes are sitting in the middle of the lake. It’s just amazing what the power of water can do.”

Those located south of the dam, however, weren’t so fortunate, including those in the town of Sanford, which had fewer than 1,000 people as of the 2010 census. Many houses were moved or simply washed away because of the flooding.

“All the restaurants are just destroyed,” Lenk said. “This one in particular was pulled right off of its foundation. We used to go there every Saturday and have breakfast. It was part of our routine. In fact, during the pandemic we’d order take out food and sit in their front parking lot and have breakfast.”

Another business that was devastated was the Fieros Forever car museum. An enthusiast of the sports car built by Pontiac only from 1984-88 had 20 of Fieros in his collection at the time of the flooding, and all but one were totaled by the disaster. “Right now we have Fieros all through town,” Lenk said May 22.

“Thank God there were no deaths or injuries because of this,” he said. “We have to give thanks to the emergency response people who told everybody to get out. They were on top of it for two days watching it. It could have been disastrous.”

The Lenks were back living in their house by late in the afternoon of May 20, but still had no power as of May 22, though they did have a generator, running water and natural gas for cooking.

## Laur operational through pandemic

No other Laur Silicone staff members were impacted by the flooding, according to Lenk.

The supplier of silicone materials, he

added, has remained open throughout the COVID-19 outbreak, but with some changes. The firm normally operates one shift five days a week. Throughout the pandemic, Lenk said the 10-person company has split into two shifts to allow for social distancing. The day shift ends at 4 p.m., while the night shift comes in at 4:30 p.m.

“We don’t see each other,” Lenk said. “That’s keeping us healthy, I think. We don’t have a lot of cases up here, but we’re doing what we can to keep everybody safe. We’ll probably be doing two shifts for another couple months. We’re not a big company, but we put out a lot of rubber.”

Business had slowed some, he said, but Laur is starting to see orders rising some now. “We do have a bunch of customers that are essential, and they kept working. So we kept getting orders but not like we usually do. It’s picking up a bit now.”

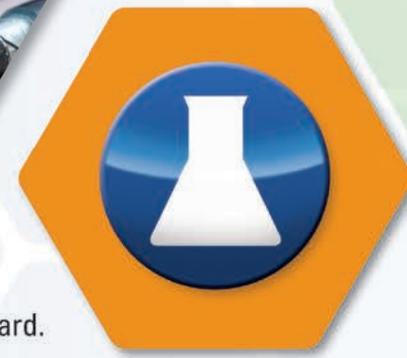


Photos courtesy of Charles Lenk

**Flooding that ensued when the Sanford Dam’s overflow safety wall gave way caused considerable damage to homes and businesses in Sanford, Mich.**



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## Opinion

# ARPM builds solid association one member at a time

**S**lowly but surely, the Association for Rubber Products Manufacturers has built itself into a worthy advocate for the non-tire rubber companies of the U.S. It has taken nearly a decade, but the organization just hit an important milestone in its journey, passing the 100-member mark.

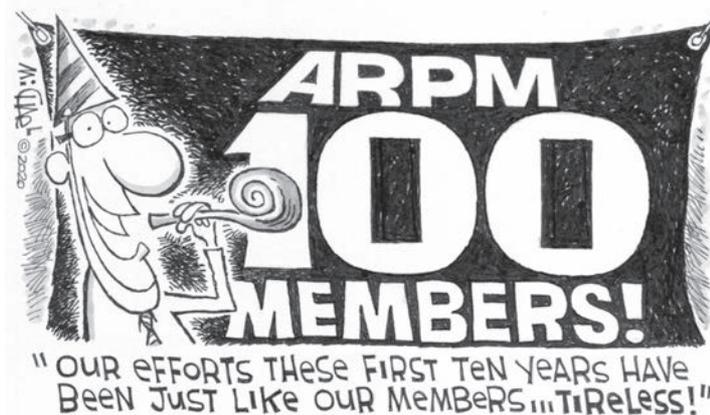
That's a long way from where the ARPM started in October 2010. At that time, those in the non-tire rubber product game, if they wanted any sort of representation, had little choice but to join the General Products Group of the former Rubber Manufacturers Association.

The big problem with the RMA, from their perspective, was that the larger tire producers easily overshadowed their non-tire brethren in the association. After all, it was the tire makers that covered roughly 80 percent of the RMA's budget, so if they wanted the Washington-based group to concentrate on lobbying on tire-related issues, that was going to top the agenda.

The RMA wasn't meeting the needs of its GPG companies, and membership in that wing of the RMA dropped to a paltry 35 companies. The GPG annual meeting had been scrapped, taking away the one true networking opportunity for those members. And with so few members remaining, they lacked the infrastructure to have programming catered to their needs.

It became clear that an agreement to have the non-tire members split from the RMA would be in the best interests of all. That would leave the tire members free to run the organization as they saw fit, including changing its name to the current U.S. Tire Manufacturers Association.

The leaders of three GPG member companies—Custom Rubber Corp., Eagle Elastomers Inc. and Hamilton Kent Inc. (one of its few non-U.S.-members)—led the effort to find a new home for the non-tire firms. Custom Rubber President Charlie Braun said they settled on Troy Nix as the person to form



an association that would cater to their needs. Nix, after all, had organized other industry groups, including one in the plastics industry. He would use the same principles and structures as in the other associations he leads, so the new ARPM wouldn't need to re-invent the wheel, so to speak.

That's not saying it would be easy. The new association didn't even maintain all of the 35 GPG members from the RMA. Nix knew the ARPM didn't have a product to sell, other than the value it could bring to the non-tire rubber community. It had to offer services the prospective members couldn't get anywhere else and would make them believe the membership was a wise investment.

So the ARPM held plant tours, fulfilling the need for networking. It also concentrated on building technical standards, offering industry benchmarking data and educational opportunities such as its safety summit.

One by one, companies joined—mostly rubber product makers, but also custom mixers, machinery suppliers, material companies and others.

The official 100th member, Zelionople, Pa.-based Eagle Rubber Products Inc., with 18 employees, is typical of a large part of the membership base. But the ARPM also boasts some of the larger names among non-tire rubber firms, including ContiTech, Freudenberg and Trelleborg.

In all, ARPM has seen a solid first decade and has what looks to be a bright future ahead.

## Viewpoint

## Join our Best Places to Work program

By Bruce Meyer

**T**here's no doubt that 2020 has been a memorable year thus far, but for all the wrong reasons. With the coronavirus pandemic dominating the news and activities of all companies, it's time to reflect on something else for a bit.

With that in mind, I'd like to encourage you to register to take part in *Rubber & Plastics News* Best Places to Work program. This is the second year that *RPN* has partnered with the Best Companies Group to invite U.S. and Canadian companies to participate in the program.

It's easy to take part, and there's a good chance you'll find out some interesting things about your company, first and foremost whether or not your employees feel as good about how you are operating your business as you hope they are. And with all the turmoil brought about by COVID-19, this actually is a good time to get a gauge on the morale of your staff.

The Best Places to Work program is open to virtually all companies doing business in any aspect of the rubber industry. That includes end product makers, suppliers,



distributors, machinery makers and recycling firms, just to name a few.

Basically, the main criteria is your firm must:

- Be a public or private company with a facility in the U.S. and/or Canada;
- Have a minimum of 15 employees;
- Be in business a minimum of one year; and
- Derive at least 50 percent of revenue from elastomer-related operations, including thermoplastic elastomers and polyurethanes.

The first step is for a business to register for participation, and the deadline is June 19. To view full participation details, visit [bestplacestoworkrubber.com](http://bestplacestoworkrubber.com).

After registration, the program includes two detailed surveys, the first for the company and the second for its employees. BCG conducts the surveys, analyzes the data and determines the winners and rankings.

So take this break from "pandemic mania." I think you'll be glad you did.

*Meyer is editor of Rubber & Plastics News. He can be reached at [bmeyer@crain.com](mailto:bmeyer@crain.com). Follow him on Twitter @bmeyerRPN.*

## Quote of the week

*What we have now is really rare because, not only is nobody buying a car, but nobody—and I mean nobody—is driving. This is a really rare kind of double-hit. There is no replacement demand and there is no OE demand. I don't think we have ever seen a situation that is quite this stark, quite this dire.*

—Paul Ita, Notch Consulting Inc.

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# Lessons learned managing from afar during pandemic

By Thomas Shorma  
WCCO Belting

I think it's safe to say that most of us never have prepared our businesses to operate during a pandemic. To further complicate matters, when COVID-19 began plaguing our country, I was on vacation with my family.

It was then that I learned first-hand how leading and managing the situation from afar created even more challenges. Even so, we knew we needed to take immediate action to ensure our employees remained safe.



Shorma

Luckily, our business development department—with the support of our IT team—already had started putting measures in place to allow our teams to work remotely and virtually collaborate when needed, so we were fortunate to have a head start.

The morning we decided action was necessary, even though I was thousands of miles away, I easily was able to connect with our leadership team to get things in motion while I was waiting for my flight back to North Dakota.

We set up a task force that included the leadership team and others who needed to be involved in decisions, including human resources and communications. We continue to meet daily to review rapidly changing updates, restrictions and news. The virtual meeting is as short or long as needed to ensure that we cover everything and our people felt taken care of. Given the speed at which things were progressing early on, it often felt as if we were in a tug of war between action and reaction. There's not an instruction manual for this situation, so we trust our instincts and do our best to sort facts from fear.

In our first task force meeting, we agreed that anyone traveling via air would be required to stay at home for 14 days after returning to North Dakota. Though it was extremely difficult for me, I stayed at home, physically away from our team, for the full 14-day self-quarantine.

## Perspective

This ended up being the longest period of time I've ever been away from the facility. Although I participate in numerous activities and events that require me to travel, I've never been one to enjoy working remotely. I like sitting down to focus at the desk that's been mine for almost 20 years. I want to take regular strolls through the production floor and check out the hot projects people are working on. During the self-quarantine, getting comfortable in my home office was a challenge, but I had to adapt, as everyone has done.

Though it was—and still is—extremely hard not being physically present every day, it's reassuring that I still can see the team's reactions face-to-face during our online calls with our collaboration tools. We are a family business and personal connections mean so much, so a phone call simply isn't enough sometimes. After all, how do you conduct family reunions? Typically, not over the phone!

For me, it's important to see people, look them in the eyes and be able to reassure them. However, I also realized I needed to set an example for my employees by making the sacrifice to work from home to reduce the risk of exposure to those who have to be onsite to do their jobs.

Outside of the protocols that needed to be put in place, such as social distancing, acquiring of protective gear, implementing additional sanitary procedures, and numerous other measures to keep our employees safe, here are a few things I learned through our COVID-19 response efforts:

- **The Value of a Unified Voice.** By involving members of different teams in the task force, we ensure every viewpoint is considered, and we cover all our bases. Though we don't always agree, we come to conclusions that benefit the greater good. Because of this, we ultimately are able to make decisions unanimously, ensuring everyone is aligned and able to educate their teams and peers on how and why decisions were made. The clear communication connects everyone to the deeper meaning behind the decisions and how the changes are in the best interest of our

employees, company and customers.

- **Get Creative with Interaction.** Even if you can't physically be together, it's important to create other interaction opportunities. Seeing people and listening to voices creates an entirely different feel when sharing messages and having a conversation, and it also can alleviate potential communications issues. We encouraged all meetings to go virtual as soon as the COVID-19 crisis escalated, and strongly suggest to our employees that they keep their laptop cameras on. In addition, our monthly employee meetings are being turned into videos, and we enlisted in a third-party Emergency Notification System. The ENS has been an impactful tool that's allowed me to communicate updates directly with our employees via voice and text messages.

- **It's Important to Be Flexible.** As a business, we already were headed down the road of telecommuting because of the preferences of the younger generations in our work force. Our leadership now sees the efficiencies and how it can work even more clearly. It's still important for us to be centered around the production facility in order to have the camaraderie we seek as a family and a business, but there is a happy medium we can strike moving forward. Because we were able to adapt easily, our business didn't have a lapse in productivity from those who were working remotely, and our employees felt supported.

- **Make Fact-Based Decisions for**

**the Good of Your Employees.** If you make your decisions based on the best interest of your employees with the available facts, they'll make decisions similarly for you. People can do amazing things when you give them the opportunity to do so.

With all these great learnings in place, at the end of the day, it also has made us value working together in-person even more.

When I finally was able to go back to the office, I intentionally—but safely—stuck around for a couple hours to see employees from all three production shifts. It was an emotional time as people walked by, waved and smiled. I wanted to be sure everyone knew that we are in this together. Through the pandemic thus far, WCCO Belting has been fortunate to keep our entire work force on board and contributing to the goals we set at the beginning of the year, and it's promising to see a glimmer of light at the end of the tunnel now.

From what I've seen throughout the past few weeks, I know that we are going to successfully weather this storm because our care for each other and our customers doesn't end when we punch out or work from home. As cliché as it may be to say, I do believe this too shall pass, and we will be stronger—and better leaders—because of it.

*Thomas Shorma is president and CEO of WCCO Belting Inc., based in Wahpeton, N.D.*

## SPE, Crain establish scholarship to honor Bregar

DANBURY, Conn.—To honor longtime plastics journalist Bill Bregar, the Society of Plastics Engineers and Crain Communications have launched the Bill Bregar Memorial Scholarship Fund, which will support aspiring journalists and business communicators in the plastics and manufacturing industries.



Bregar

Bregar, who died on April 5 of an apparent heart attack, spent 31 years reporting on the plastics industry. He joined Crain Communications' *Plastics News* as a staff reporter shortly before the publication's launch in 1989. *Plastics News* is a sister publication of *Rubber & Plastics News*.

"I think Bill liked the reporting part of journalism best," *PN* Editor Don Loepp said. "Meeting people, calling people on the phone, asking them questions, learning about them and about their business. He was an excellent writer, too, and his style came through in almost everything he wrote, even briefs about new products. But his real gift was his reporting skill. He also enjoyed mentoring young reporters, sharing his knowledge and sources freely when they showed interest."

Bregar, who was a resident of Ashtabula, Ohio, also reported on SPE events and news. Because he was considered a longtime friend and asset to the SPE Akron Section, Bregar recently was inducted posthumously into the Section's 2020 Plastics Hall of Honor. This award recognizes individuals whose quiet service and support are often overshadowed by the celebrity of people or programs deemed of higher rank or visibility. He was nominated by Keith Pelfrey, awards chair of SPE's Akron Section.

"Bill has been a huge supporter of the Akron chapter over the years. We enjoyed his wit and humor," Pelfrey said.

The Bill Bregar Memorial Scholarship Fund was established on behalf of the Bregar family by SPE and Crain Communications. Crain will provide initial funding of \$5,000 with additional funding coming through donations. The SPE Foundation is accepting donations through the Bill Bregar Scholarship Fund website.

"By honoring Bill's memory with a scholarship for a journalism or communications student, we are affirming his life's work as well as his excellence in reporting on an industry we all hold dear," said Eve Vitale, chief executive of the SPE Foundation.

Scholarship applications will be accepted from Dec. 1 through April 1, 2021, on the SPE Foundation website at [www.4spe.org](http://www.4spe.org).

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# Unexpected turn of events

## Carbon black firms find steady ground amid pandemic's uncertainty



By Erin Pustay Beaven

Rubber & Plastics News Staff

If anything, 2020 kind of feels like one big dizzy bat race.

The coronavirus pandemic has sent the industries spinning, and businesses are forced to find the finish line on unsure footing and unfamiliar terrain.

But it wasn't supposed to be this way. It was supposed to be an extension of 2019, which saw some market softening, but overall turned out to be pretty solid.

Last year, the global market for carbon black was around 13.7 million metric tons, and had a value of about \$16.2 billion, according to the Carbon Black World Data Book issued by Notch Consulting Inc. By end market, carbon black broke down:

- passenger car tires—28 percent;
- truck/bus tires—24 percent;
- other tires—22 percent;
- manufactured rubber goods/non-tire rubber goods—19 percent; and
- specialty blacks (all non-rubber)—7 percent.

This year was supposed to be similar. It was supposed to be stable and, if nothing else, predictable.

"To use a sports term, we were looking at a rebuilding year," said Paul Ita, a consultant with Notch Consulting. "I don't

think anyone was coming into this year thinking it was going to be a gangbuster."

Cancarb Ltd., part of Tokai Carbon Co. Ltd., came into 2020 expecting to see slight drops in demand from the automotive market, and was preparing to adjust accordingly.

"We started to see shipment volumes softening from the onset of the second half of 2019 as automotive builds began to slow down," Cancarb President Peter Donnelly said in an emailed statement. "We certainly felt the impact of the global slowdown in the auto sector, but this was partly offset by the fact that we sell our thermal carbon black into a myriad of applications in many industries, including ceramics and refractories."

Cabot Corp. was expecting to see consistency from 2020. The automotive market, which had been slowly softening, was beginning to stabilize and early indicators showed that the year was going to be a good one.

"As the 2019 calendar turned to 2020, we were seeing a stable market globally," Cabot said in a statement. "The automotive market was not terribly strong, but not terribly weak either, and customers who had destocked at the end of 2019 were restocking for 2020, so the year got off to a strong start."

But if 2020 has been anything, it's been unstable. At least through the first three months of the year.

Carbon black makers—and others along the automotive industry supply chain—began to feel the economic impact of the coronavirus early in 2020 as Asia grappled with its spread, and manufacturing there slowed and stopped.

"We first experienced the impact of COVID-19 in China with the extension of Lunar New Year holiday closures into February," Cabot said. "Many of our customers' plants in China were closed or running at low rates for most of February. We began to see improvement as we moved through March, and by April China volumes for the domestic tire market were back to more normal levels."

Then the automotive industry sputtered its way through the first few months of the pandemic in Europe and North America. More tire makers and auto suppliers were forced to suspend operations both to protect their work forces and adjust to the decreased demand for products.

That weighed on the carbon black makers. "In Europe and the Americas, we experienced solid demand from January through early March," Cabot said. "By the end of March, many of our tire and automotive customers across these regions began to stop operations and demand was reduced over the last two weeks of the quarter. This led to weaker volumes, mainly in our Reinforcement Materials segment."

Despite the drops in demand, Cabot said it was able to maintain all of its operations, but production has been scaled back "to align to the lower customer demand."

The same is true for Cancarb, which has continued with production, adjusting to demand as necessary.

"As the auto and tire sectors began to slow down or completely close plants, this quickly translated into customers postponing orders and, hence, our sales volume has been reduced," Donnelly said. "We have scaled back production accordingly and have had a corresponding impact to sales and operating

income from the lower sales volumes."

Weakening market demand in the automotive and pipe markets throughout North America and Europe had a particularly pointed impact on Orion Engineered Carbon L.L.C.'s Specialty Carbon Blacks segment in the first quarter of 2020. Volumes in the segment fell 8.8 percent to around 58,000 metric tons.

In terms of production, Orion was able to maintain operations globally, ensuring a steady supply to its customers. As demand waned, Orion said it adjusted.

"Where demand slowed," Orion CEO Corning Painter said in a statement, "our people have been flexible allowing us to drive operational and safety improvements with everyone pitching in."

"Orion executed well in the first quarter, and we were on track for strong financial results until the latter half of March when many tire customer plants shut down. Still, we delivered adjusted EBITDA of \$63.8

• OE light truck tires likely will fall 18 percent to 4.8 million units, from 5.9 million; and

• OE medium truck tires are expected to plummet nearly 31 percent to 4.5 million units, from 6.5 million.

What makes the coronavirus' impact so devastating for the tire market is that it has reached into the replacement tire market simultaneously. Shelter-at-home orders kept drivers off the roads, and their lack of travel was compounded by layoffs and furloughs.

"What we have now is really rare because, not only is nobody buying a car, but nobody—and I mean nobody—is driving," Ita said. "This is a really rare kind of double-hit. There is no replacement demand and there is no OE demand. I don't think we have ever seen a situation that is quite this stark, quite this dire."

All of that adds up to a crunch on the replacement tire market.

USTMA's latest prediction assumes the same. USTMA expects 2020 replacement tire shipments to trail 2019. By category, it predicts:

- Passenger tires to be down 17 percent to 184.4 million units, from 222.6 million;
- Light truck tires to fall 16 percent to 27.3 million units, from 32.5 million; and
- Medium truck tires to slip 7 percent to 17.6 million units, from 18.9 million.

The European Tyre & Rubber Manufacturers' Association's analysis of the first quarter echoed the USTMA's findings.

Compared to 2019, Europe's passenger and light truck tire shipments were down 12.8 percent for the quarter to 48 million units, ETRMA said. In March alone, those shipments were off 26.4 percent.

The truck tire aftermarket fared the best among the categories tracked by ETRMA, with shipments falling 5.6 percent to 2.83 million units. March, however, saw a 15.1 percent decline in truck tire shipments when compared to the same month last year.

### Silver linings

Still, every gray cloud is said to have its silver lining, and the economic storm brought on by the coronavirus is no different.

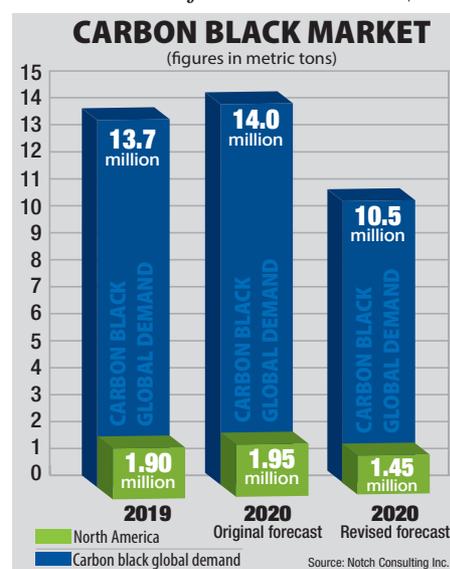
"Certainly, the current market situation is a challenging one, though our focus begins with the health and safety of our employees and their families," Cabot said, praising its employees for their dedication and flexibility during the uncertain times. "What gives us great optimism is the way our colleagues, customers and partners around the world have quickly adapted to the circumstances and continue to manage through the challenges each day. We feel confident in the resiliency of our colleagues, our customers and our industry."

In the tire market, those bright spots have been the commercial tire industry—which includes retreading—and the ag tire market.

Growing food and delivering essential goods remained key components of everyday life, even as many other facets of business and manufacturing halted, so ag tire and commercial tire makers continued operations, Ita said. Another silver lining for carbon black makers was manufactured rubber goods, which continued to see steady demand from essential industries.

"Looking around, anything you see as essential is still running," he said.

See **Carbon**, page 11



million despite the shutdowns, an abrupt halt in consumer spending and miles driven, and a sharp decline in oil prices."

For the carbon black industry, COVID-19's economic punch was repeated. In a typical recession, one sector may suffer but others will be stronger. In the tire market, for instance, if OEMs have a down year, chances are the aftermarket will be robust.

But not this time around.

### Tire market battered

The U.S. Tire Manufacturers Association's revised tire shipment figures are evidence of just how deeply the COVID-19 pandemic has cut into the tire market, and subsequently, the carbon black market. In April, the USTMA said 2020 shipments could fall to their lowest levels in decades—to 273.6 million units. That represents an 18 percent drop compared 2019.

And that's a stark contrast to the association's early March projections. Before the coronavirus' economic impact was evident, USTMA said it expected U.S. tire shipments to increase this year.

But the newest outlook shows that's not the case anymore. And the original equipment sector is expected to take the biggest hit. USTMA now estimates a full-year drop of 24 percent in the OE sector, compared to 2019.

By individual category, the USTMA's latest forecast indicates:

- OE passenger tires could drop 24 percent to 35 million units, from 46.3 million;

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# Birla, GranBio claim breakthrough in sustainability

By Jim Johnson

Rubber & Plastics News Staff

MARIETTA, Ga.—A joint development program between Birla Carbon and GranBio Technologies expects to improve the sustainability of tire and rubber products through what the companies are calling a breakthrough technology.

The two companies claim to have figured out how to effectively disperse nanocellulose in tire and rubber products, the result of a three-year development program involving the two sides.

Birla Carbon and GranBio are calling the new product nanocellulose dispersion composite rubber masterbatch and using the trademark “NDC” for it.

“The NDC masterbatch overcomes traditional dispersion challenges by combining several synergistic innovations developed by our team members including GranBio’s patented hydrophobic form of nanocellulose,” the companies said in a joint statement.

The new masterbatch addresses sustainability demands “both in terms of improving tire rolling resistance and vehicle fuel economy through enabling the

incorporation of sustainable, bio-derived nanocellulose into commercial rubber products,” the companies said.

Nanocellulose utilization has caught the attention of both industry and research in recent years, but there have been challenges regarding effective dispersion of hydrophilic nanocellulose into hydrophobic rubber formulations, the companies said.

Nanocellulose is described by the companies as a “versatile high-strength, lightweight renewable biomaterial.” GranBio makes a variety of nanocellulose products at a biorefinery in Thomaston, Ga.

“A key product innovation goal of our tire customers is to increase the amount of renewable raw materials in their tires through product innovation,” Dale Clark, Birla’s chief technology officer, said in a statement. “The NDC masterbatch enables delivery of this goal while maintaining or improving tire properties and performance.”

Birla has a regional headquarters in Marietta and global headquarters in Mumbai, India.

Kenneth Hill, GranBio’s chief commercial officer, called the development “a significant milestone” in his

company’s commercialization of its BioPlus nanocellulose technology.

News of the sustainability improvements comes as Birla also is revealing that its 16 global manufacturing plants have been certified by the International Automotive Task Force. Birla claims it is the first carbon black maker to gain this recognition.

IATF certification “signifies that the company meets all the requirements of the global Quality Management System standard, especially for the automotive industry,” the company said. “It incorporates the structure and requirements of the ISO (International Organization for Standardization) quality management system and additional requirements for automotive customers.”

Certification is developed by members of the International Automotive Task Force and submitted to the ISO. Certification can cover any company manufacturing and supplying components to the automobile industry, Birla said.

Birla has 16 manufacturing facilities in 12 countries and two technology centers in Marietta and Taloja, India.

## Carbon

Continued from page 10

That’s a good thing for carbon black companies supplying makers of rubber goods that support those industries.

“We are starting to see the beginnings of recovery for the tire markets in recent weeks,” Cabot said. “At the same time, we are seeing a number of applications that are growing or potentially benefiting from the COVID-19 environment. Specifically, strong demand remains in the agricultural space as well as applications such as packaging, and specifically food packaging. These are important markets for both our carbon black and masterbatch products lines.”

Sometimes, it’s the most difficult of circumstances that bring out the best in people. That has been true for Cabot, which has seen its employees step up and help their communities, friends and neighbors with acts of kindness.

“We are also extremely proud of our Cabot team across the globe who have stepped up to support their local communities during this challenging time, from donating personal protective equipment and contributing raw materials for the production of hand sanitizer, to helping supply food to children who are without access to school meals,” Cabot said.

### A sense of normalcy

Even with the good news, one question looms for carbon black makers: When will things return to normal?

Unfortunately, Ita said, there are no easy answers.

Initially, Notch Consulting had projected that demand for carbon black would grow slightly in 2020, compared to 2019. Last year, global demand for carbon black reached 13.7 million metric tons, and demand was expected to grow to about 14.2 million in 2020, according to Notch Consulting’s Carbon Black World Data Book.

In North America, carbon black demand was around 1.9 million tons last year, and Notch Consulting had assumed that demand would grow slightly this year to about 1.95 million tons.

But the impacts of the coronavirus coupled with the plummeting prices throughout the oil industry this year changed that projection. Notch Consulting now estimates that global demand for carbon black will be somewhere around 10.5 million tons, while North American demand likely will be somewhere around 1.45 million tons.

“The other thing we all have to acknowledge is that nobody—nobody—knows what this (recovery) is going to look like,” Ita said. “Even if we look to

the financial crisis of 2008-09, it really is different because that crisis is not what we are looking at now. There were no limits on people leaving the house. Maybe people were reluctant to spend money, but it’s nothing like anything that we are (experiencing) now.”

For instance, a second wave of infections in the fall could result in an economic hit as big or bigger than the one the world faced this spring. If that’s the case, it may be impossible for some companies to overcome.

“I don’t know that many companies can survive that stress test,” Ita said. “My fear is that people will not survive this downturn, even companies that were pretty stable. So far, the quarter results have been concerning, but have not been disastrous, so companies may have gotten through the first part of this crisis.”

Orion, in particular, remains optimistic about the road ahead despite the economic challenges it currently faces.

“While uncertainties continue, society will emerge from this, and our end markets will rebound,” Painter said. “In particular, we believe driving is going to be a popular mode of transportation, and we are working to be stronger than ever to serve our customers.”

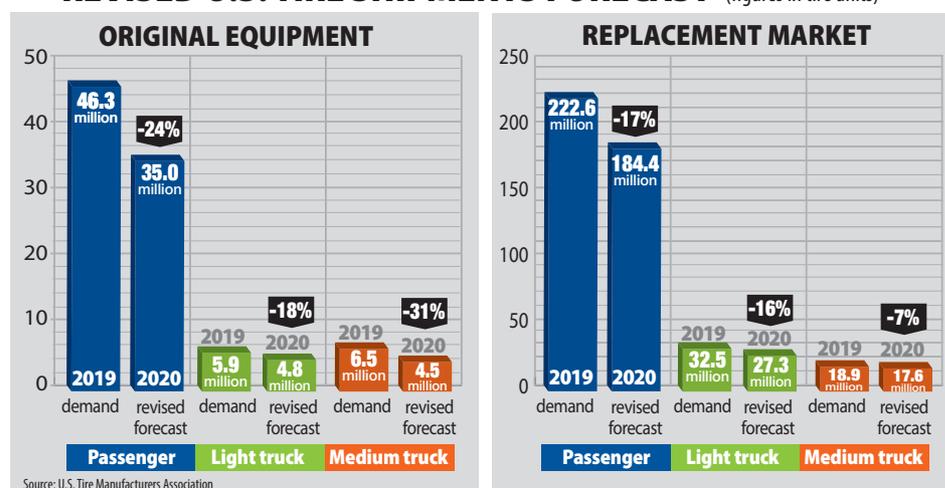
### Forging ahead

For Cancarb, the economic downturn has been manageable so far. To maintain costs, the company has been following the recommendations of its parent company, Tokai Carbon, but has not had any layoffs.

In a May 12 financial statement, Tokai said the COVID-19 pandemic will require it to “minimize the capital expenditures, implement thorough cost reduction, reduce inventory to generate cash and secure higher financial liquidity.”

While capital expenditures have been reduced, Cancarb is moving forward with plans to expand capacity at its Medicine Hat, Alberta, facility with the addition of a sixth production unit that will add

### REVISED U.S. TIRE SHIPMENTS FORECAST (figures in tire units)



9,000 metric tons of capacity. The project timeline has not been altered as a result of the pandemic, and is slated for completion later this year, according to Donnelly.

“This will give us much more flexibility with operating and maintaining our other five units, but we are also optimistic that the research and development efforts that we are now engaged in will lead to an increase in our sales volumes in the very near future,” he said. “We will be able to meet all of the volume requirements of our customers and will continue to focus on growing the thermal carbon black business along with the economic recovery.”

The Medicine Hat expansion is part of a \$40.1 million investment disclosed by Cancarb last year. That cost also included the purchase of a warehouse that will add 27,000 square feet of additional storage capacity, bringing the company’s total warehouse space in Medicine Hat to 90,000 square feet.

Cabot also has found ways to weather the economic downturn, mainly by reducing short-term costs that won’t hinder the company’s ability to ramp up and meet demand once it returns.

“We eliminated all discretionary spending, stopped travel, curtailed production, tightened plant spending and our President and CEO Sean Keohane temporarily suspended his salary,” Cabot said. “Finally, we have further reduced our capital expenditure forecast by \$25 million such that our capital expenditures are expected to be approximately \$200 million for fiscal year 2020.”

Even as Cabot is working to maintain its financial stability, it is seeing many opportunities for growth. Continued investments in applications such as batteries and engineered elastomer composites (E2C) are setting the company up for growth, once the markets stabilize.

“Our recent acquisition of Sanshun, a leading carbon nanotube producer to the battery sector, will strengthen our position in conductive carbon additives,” Cabot said. “We also announced the commercial deployment of the first E2C solution to help tire manufacturers unlock superior performance sustainably and economically. Both developments position us to capitalize on the transformational potential of these markets.”

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# Rubber Heart to market Rubber Division in Europe

Rubber & Plastics News

AKRON—In a time when social distancing is critical, it's connections that matter.

A newly signed memorandum of understanding between the ACS Rubber Division and Rubber Heart—a marketing, communications and events company based in the United Kingdom—is intended to expand and strengthen the rubber industry's global connections.

“Those involved in the rubber industry will be considering ways to broaden and create more flexible supply chains in the future, and I believe that the Rubber Division, ACS community can play a significant role in connecting and driving business, particularly between the U.S. and Europe,” Lakisha Miller-Barclay, Rubber Division executive director, said in a statement.

Under the agreement, Rubber Heart founders David Cawthra and Gail Reader will serve as European representatives, tasked with broadening Rubber Division awareness and engagement throughout Europe.

“We have seen firsthand the benefits of the Rubber Division, ACS Corporate Membership scheme during our previous employment and how it can have such an impact on making new connections, driving business forward and keeping abreast of new research and innovations,” Reader said in a statement. “We look for-

ward to working with the dedicated and passionate Rubber Division, ACS team to strengthen its position internationally, particularly in Europe.”

As the coronavirus spread around the world, the Rubber Division said it adapted many of its programs, events and educational opportunities to continue to meet the needs of its members, while also working to keep everyone safe. This included moving training and events online. One training, focusing on the impact of COVID-19 on the industry, drew a large European audience.

Additional webinars, including those focusing on failure analysis of rubber as well as polymer testing and processing, will be offered throughout the spring and summer.

So far, the Rubber Division plans to hold its annual International Elastomer Conference in person in Knoxville, Tenn., but those plans routinely are being reviewed.

“We are still actively planning for our International Elastomer Conference Oct. 20-22 this year in Knoxville, Tenn., to proceed as scheduled as we believe it would provide the global rubber industry with a meeting hub to reassess and create new business models for the future,” Miller-Barclay said. “However, our overwhelming priority is to ensure the safety, health and



Pictured are (clockwise from top right) Lakisha Miller-Barclay, Rubber Division executive director; and Rubber Heart founders David Cawthra and Gail Reader.

well-being of all involved with our event, so we will be closely monitoring the evolving situation and any potential impact new developments may have on it.”

## Calendar

### Rubber groups

**Bourbon Trail Elastomer Group:** Golf outing (rescheduled from May 19), now Sept. 15, Glenview Golf Course, Cincinnati; technical meeting (rescheduled from Sept. 15), now Nov. 17, Louisville, Ky. (www.bourbontrailelastomergroup.org)

**Brazil Rubber Group:** 18th Brazilian Congress of Rubber Technology (rescheduled from June 30-July 1), now Sept. 23-24, Sao Paulo, Brazil. (www.abtb.com.br)

**Chicago Rubber Group:** Chicago golf outing, July 16, Village Links, Glen Ellyn, Ill.; Wisconsin golf outing, Aug. 12, Hawk's View Golf Club, Lake Geneva, Wis.; Fall technical meeting, Sept. 17, Top Golf. (www.chicagorubbergroup.org)

**Detroit Rubber Group:** The June 18 fishing event has been canceled due to coronavirus concerns. Next scheduled event: Golf outing, July 21, Bay Pointe Golf Club, West Bloomfield, Mich.; Board meeting, July 27, 3M, Livonia, Mich.; Board meeting, Sept. 14, Freudenberg-NOK Sealing Technologies, Plymouth, Mich.; Fall technical meeting, Nov. 11, Freudenberg-NOK Sealing Technologies, Plymouth, Mich.; Board holiday dinner, Dec. 7, location TBD, Novi, Mich. (Jim Eddy, eddy@zeonchemicals.com; www.rubber.org)

**Energy Polymer Group:** Educational symposium, Sept. 15-16, Hilton Palacio Del Rio, San Antonio; Fall technical meeting, Sept. 17, Hilton Palacio Del Rio, San Antonio. (www.energypolymergroup.org)

**Fort Wayne Rubber & Plastics Group:** Social event, June 10, the Hoppy Gnome, Fort Wayne, Ind.; Memorial Golf Outing, June 11, Maxwellton Golf Club, Syracuse, Ind.; Technical meeting, Sept. 23 Ceruti's, Fort Wayne, Ind.; Christmas Party, Dec. 3, Ceruti's, Fort Wayne, Inc. (www.fwrpg.org)

**Los Angeles Rubber Group:** Summer conference, set for June 5-7 in Las Vegas, has been canceled due to the pandemic; Basic Rubber Technology Course, Sept. 3, R.D. Abbott, Cerritos, Calif.; Technical conference, Oktoberfest and mini expo, Oct. 6, Phoenix Club, Anaheim, Calif.; Christmas Party, Dec. 5, Hilton Orange County, Costa Mesa, Calif. (www.tlargi.org)

**Mexico Rubber Group:** Technical courses: July 9, Aug. 27, Oct. 8, Nov. 26, Rubber Chamber Auditorium, Mexico City; End of year luncheon, Dec. 5, Concamin Ballroom, Mexico City. (52-55-55666199; 52-55-55352266; Francisco Martha cni1@prodigy.net.mx; Miguel Bernal cni1@prodigy.net.mx; Jose Gazano antogua@prodigy.net.mx; www.cni1.com.mx)

**Michigan Rubber Group:** The May 28 golf outing has been postponed until Sept. 3 at Forest Akers Golf Course at Michigan State University, East Lansing, Mich. The rest of the year's events have been suspended until further notice due to coronavirus pandemic. (Keith Korthals, 989-435-7400, kakorthals@laursilicone.com, www.michiganrubbergroup.com)

**Mid-Atlantic Rubber & Plastics Group:** Fall technical meeting/tour, Sept. 10, ASTM, Conshohocken, Pa.; Educational symposium, Nov. 10, Lehigh University Iacocca Hall, Bethlehem, Pa. (Bruce Rhoades, brhoades@gtweed.com; www.marpg.org)

### Looking Ahead



**Energy Polymer Group:** Educational symposium..... Sept. 15-16

**International Silicone Conference:** Latest innovations in industry.. Nov. 9-10

**Polyurethanes Technical Conference:** 63rd annual conference ..... Oct. 5-7

**ACS Rubber Division:** International Elastomer Conference..... Oct. 20-22

**New England Rubber Group:** NERPG annual golf outing, Aug. 4, Blackstone National Golf Course, Sutton, Mass.; Fall technical meeting/tour, Nov. 5, location TBD. (www.nerpg.com)

**Ohio Rubber Group:** Golf outing set for June 16 at Yankee Run Golf Course, Brookfield, Ohio, has been canceled due to the pandemic; Golf outing, Aug. 31, Silver Lake Country Club, Stow, Ohio; Fall technical meeting, Sept. 29, Hilton Garden Inn, Twinsburg, Ohio. (www.ohiorubbergroup.org)

**Southern Rubber Group:** Summer technical meeting, June 22-24, The King and Prince, St. Simons Island, Ga. (www.southernrubbergroup.org)

**Twin Cities Rubber Group:** Golf outing, Aug. 6, Willingers Golf Club, Northfield, Minn.; Technical meetings: Sept. 17, Nov. 19, Holiday Inn & Suites—Arbor Lakes, Maple Grove, Minn. (tcrg2013@gmail.com; www.twincitiesrubbergroup.org)

### Seminars/conferences

**Clemson Tire Conference:** Rescheduled for Sept. 1-3 due to coronavirus concerns. Annual event discussing issues impacting the tire industry. (Nan Johnston, 864-656-2200; ejohns5@clemson.edu)

**Foam Expo North America:** Trade show and conference for the technical foam industry, Aug. 25-27, Novi, Mich. (855-436-8683; callum.gibson@smartershows.com)

**FPDA-ISD Summit:** Fluid Power Distributors Association and the International Sealing Distribution Association joint industry summit, Oct. 4-7, Hilton Sandestin Beach Resort & Spa, Sandestin, Fla. (www.isd.org)

**iLearn Innovation Institute:** A division of Ace Products & Consulting L.L.C., all courses held at Ace Products in Ravenna, Ohio; Rubber Compounding for Durability, Endurica event, June 9-10; (Christie Robinson, 330-577-4088, christie.robinson@aceprod-con.com)

**ITEC: Tire Manufacturing:** Biennial event spotlighting the tire industry, Sept. 15-17, John S. Knight Center, Akron, organized by Rubber & Plastics News. (czernick@crain.com; www.rubbernews.com/conferences)

**India Rubber Expo:** Event highlighting the opportunities for rubber in India, Jan. 19-21, 2021, Pragati Maidan, New Delhi. (ire@indiarubberexpo.in)

**International Silicone Conference:** Rescheduled to Nov. 9-10 due to coronavirus concerns. Focus on latest innovations in industry, organized by Rubber & Plastics News, Shin-Etsu and Wacker, Sheraton Suites, Cuyahoga Falls, Ohio. (czernick@crain.com; www.rubbernews.com/conferences)

**Latin American & Caribbean Tyre and Latin Auto Parts Expo:** Rescheduled from July 14-17 to Nov. 17-20 due to coronavirus pandemic. Joint conference focusing on the tire and auto parts industries, Amador Convention Center, Panama City, Panama. (786-293-5186; info@LatinTyreExpo.com; www.LatinTyreExpo.com)

**Medical Tubing:** International conference on polymeric medical tubing and catheters scheduled for June 17-18 in Berlin has been canceled due to COVID-19 pandemic. (www.amiplastics.com/events)

**Polyurethanes Technical Conference:** 63rd annual conference bringing together industry leaders to discuss and learn about innovations and applications for polyurethanes, Oct. 5-7, San Antonio, Texas, Marriott Rivercenter. (http://polyurethane.americanchemistry.com)

**Silicone Elastomers/Thermoplastic Elastomers U.S. Summit:** Conference on silicone and TPEs organized by Smithers-Rapra, virtual format, June 24, July 1 and July 8. (Brienne Alves, 330-762-7441, balves@smithers.com; www.elastomer-forum.com)

**Techtextil North America:** Symposium featuring developments in technical textile and non-wovens, rescheduled to Oct. 1-3, Georgia World Congress Center, Atlanta (www.techtextilNA.com)

**Tire Technology Expo 2021:** 21st showcase for the global tire design, development and manufacturing industry, March 2-4, 2021, Deutsche Messe, Hannover, Germany. (www.tiretechnology-expo.com)

**Traction Summit:** Tire conference, Nov. 9-10, Hilton Charlotte University Place, Charlotte, N.C. (www.tractionsummit.com)

**UTECH Las Americas:** Trade show, conference on polyurethanes, June 29-July 1, 2021, Cento Citibanamex, Mexico City. (www.utechlasamericas.com)

**World Elastomer Summit:** Conference focused on market predictions for butadiene, synthetic and nat-

ural rubber has been postponed until fall due to coronavirus concerns, dates and venue TBD, Lyon, France. (www.wplgroup.com/aci/event/elastomers-conference)

### Trade/technical associations

**ACS Rubber Division:** International Elastomer Conference, featuring Rubber Expo, 198th Technical Meeting & Education Symposium, Oct. 20-22, Knoxville Convention Center, Knoxville, Tenn.; Courses, June 17, Elastomer Training Center, Akron, Ohio; Webinars, June 25, July 23, Aug. 27, Sept. 24, online only. (330-595-5531; www.rubber.org)

**Adhesive and Sealant Council:** Additives Short Course, Sept. 28-30, Omni Hotel and Resort William Penn, Pittsburgh. (Malinda Armstrong; malinda.armstrong@ascouncil.org; 301-986-9700 Ex. 1106; www.ascouncil.org)

**Association for Rubber Products Manufacturers:** Environmental, Health and Safety Summit, rescheduled to Nov. 11-12, Cleveland Airport Marriott, Cleveland; Benchmarking and Best Practices Conference, Oct. 20-22, Indianapolis Marriott Downtown, Indianapolis. (317-863-4072; www.arminc.org)

**ASTM International Committee D24 on Carbon Black:** Summer meeting scheduled for June 29-July 1 in Boston, canceled due to coronavirus outbreak; Winter meeting, Dec. 7-9, Renaissance Orlando at SeaWorld, Orlando, Fla. (Melissa Marcinowski, mmarcinowski@astm.org, www.astm.org)

**Center for Automotive Research:** CAR management briefing seminars featuring topics impacting the automotive industry, converted to virtual format, Aug. 4-5. (Lisa Hart, 734-929-0465, lhart@cargroup.org; www.cargroup.org)

**Fluid Sealing Association:** Annual meeting, Oct. 20-22, Kimpton Hotel Palomar, Phoenix, Ariz., (www.fluidsealing.com)

**Gasket Fabricators Association:** Semi-annual meeting, Sept. 22-24, Dallas Marriott City Center, Dallas. (www.gasketfab.com)

**International Rubber Conference Organization:** RubberCon 2020, postponed to Feb. 11-12, 2021, in Paris; International Rubber Conference, postponed to April 15-17, 2021, in Chennai, India. (www.internationalrubberconference.org)

**NIBA-The Belting Association:** Annual convention, Sept. 16-19, Hilton Austin, Austin, Texas. (www.niba.org)

**Polyurethane Foam Association:** General meetings, Nov. 4-5, Omni La Mansion del Rio, San Antonio, Texas. (www.pfa.org)

**Power Transmission Distributors Association:** 2020 Industry Summit, Oct. 21-24, Atlanta Marriott Marquis, Atlanta. (312-516-2100; www.ptda.org)

**Tire Society:** 39th annual meeting and conference on tire science and technology, converted to online format, Sept. 9-10. (www.tiresociety.org)

## Technical

# Low-temperature cure LSR technology enables processing improvements

By Michael Wang and Craig Gross  
Dow Silicones Corp.

and Patrick Beyer

Dow Silicones Deutschland GmbH

Liquid silicone rubber has emerged as a preferred elastomeric material due to a combination of ease of processing and physical properties. Traditional processing conditions utilize liquid injection molding at high temperature, typically 160-220°C, to produce complex articles while allowing short cycle time and parts consistency.

## TECHNICAL NOTEBOOK

Edited by John Dick

The introduction of a novel low temperature cure (LTC) technology can greatly expand the benefits of LSR products. This new class of LSRs allows for fast curing speeds at temperatures as low as 100°C, enabling both optimized processing as well as new innovative process and product designs.

The benefits of LTC technology have been demonstrated in consumer, electronic and automotive applications. At higher temperatures, LTC technology affords improved cycle times and fast deep-section cure. At lower temperatures, the ability to vulcanize LTC LSR

## Executive summary

A new breakthrough technology, low temperature cure (LTC) liquid silicone rubber, has been developed to enable improved process efficiency and greater design freedom. With ever-increasing industry focus on innovation and quality, and with heightened consumer awareness of sustainability, LSRs have emerged as the performance material of choice for automotive components and consumer goods. LTC LSRs greatly expand on the properties of silicone rubber. While traditional LSRs typically require temperatures between 160 and 220°C, LTC LSR can cure quickly at conditions as low as 100°C.

At lower temperatures, the ability to vulcanize LTC LSR in the 100-120°C range provides design flexibility and maximum process efficiency to the LSR portfolio. At standard cure temperatures, the LTC technology translates to lower sensitivity to temperature gradients during cure, which allows for fast deep-section cure of thick-walled articles.

Another benefit is the option to add a cure accelerator to the LTC LSR, which can further reduce the processing temperature to 80°C. This new innovation greatly enhances cycle time reduction and speeds up deep-section cure, all while maintaining physical properties. This technology also enables co-molding of LSR with low-melting plastics or other temperature-sensitive components, opening new markets for 2K silicone molding.

Overall, LTC LSR is a step-change in silicone rubber. The freedom to reduce curing temperatures, create thicker parts, co-mold with a broader range of substrates or simply reduce cycle times results in new levels of efficiency and quality.

in the 100-120°C range provides design flexibility and maximum process efficiency to the LSR portfolio.

Injection molding process studies and mold flow simulations both highlight the broad processing range of this new class

of materials. Furthermore, this technology also enables co-molding of LSR with low-melting plastics, opening new markets for 2K silicone molding. Another benefit is the option to add a cure accelerator to the LTC LSR, which can further reduce the processing temperature to 80°C, greatly enhance cycle time reduction and speed up deep-section cure, all while maintaining physical properties

## Maximizing cure rates

Silicone elastomers are polydimethylsiloxane (PDMS) rubbers, ubiquitous in both consumer and specialty markets, characterized by their chemical resistance, weatherability, resistance to thermal and photo degradation, low surface energy and low glass transition temperatures, which allows for fewer changes in physical properties over a wide temperature range.<sup>1,2</sup>

In particular, liquid silicone rubber is known for its fast cure rate, lower production cost and excellent performance, which result from hydrosilylation, a platinum-catalyzed addition reaction.<sup>3,4</sup> To maximize the cure rates, LSR is typically cured at high temperatures ranging from 160°C to 220 °C to enable curing times in the order of seconds.

Hydrosilylation is a robust vulcanization chemistry. In LSRs, hydride-functional PDMS polymers readily combine with vinyl-functional PDMS in the presence of platinum (Fig. 1).<sup>5</sup>

Due to its inherent high reactivity, an inhibitor is usually added to suppress the cure at room temperature and allows for a workable time or pot life. A pot life of 72 hours or greater is critical to allow for a stable injection molding process and avoid undesired curing in the injection unit. To reverse this inhibition and resume the cure process, LSR needs to be cured at high temperatures above its activation temperature, generally around 100°C (Fig. 2).

Processing LSR materials at higher temperatures well above this activation threshold gives fast cure rates, with heating times in the range of seconds (Fig. 3). Conversely, lowering the cure temperature toward the activation temperature significantly slows the cure rates. This slow cure significantly impacts productiv-

## The authors

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He specializes in formulation research, reaction optimization, polymer synthesis, material science and quantitative analysis. As part of the HTV Elastomers team, he has had the opportunity to explore new technology for a range of silicone elastomer products, including LSRs, F-LSRs, HCRs and FSRs.

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Craig Gross joined Dow Corning in 1996 and became part of Dow through the acquisition in 2016.

During his career, he has held various roles in process engineering, manufacturing, development, and TS&D within North America. His expertise includes formulation and application of LSR, HCR and FSR materials, and he has knowledge in a wide range of materials and fabrication processes used in both the plastics and rubber industries.

In his current position, Gross leads a variety of initiatives focused on delivering silicone elastomer solutions to customers. He graduated from Ferris State University with a bachelor's in plastics engineering and has four patents.

Patrick Beyer studied chemistry at the University of Mainz, Germany, where he obtained his doctorate in 2007 in polymer chemistry with a thesis on "Liquid Crystalline Elastomers." In 2007 he joined Dow Silicones Deutschland GmbH in Germany, where he is working as a research scientist in the field of liquid silicone rubber.



Wang



Gross



Beyer

Fig. 1: Addition-curing reaction of LSR (platinum-catalyzed hydrosilylation reaction).

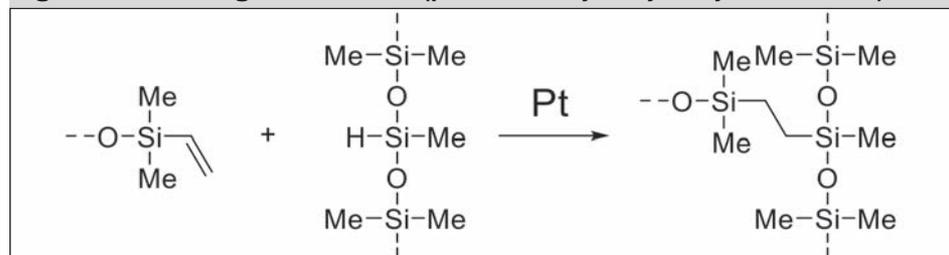


Fig. 2: DSC cure curve for a standard LSR. Heating rate 10°C/min. The temperature activation profile is characterized by its onset temperature ( $T_{onset}$ ) and peak temperature ( $T_{peak}$ ).

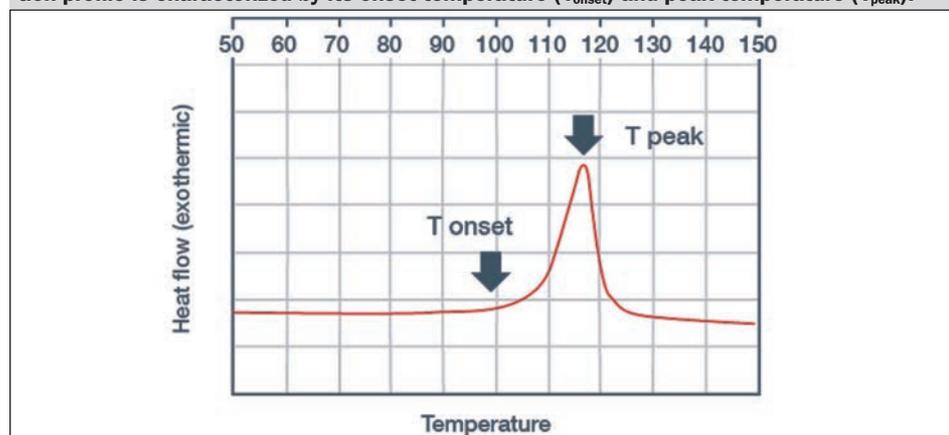
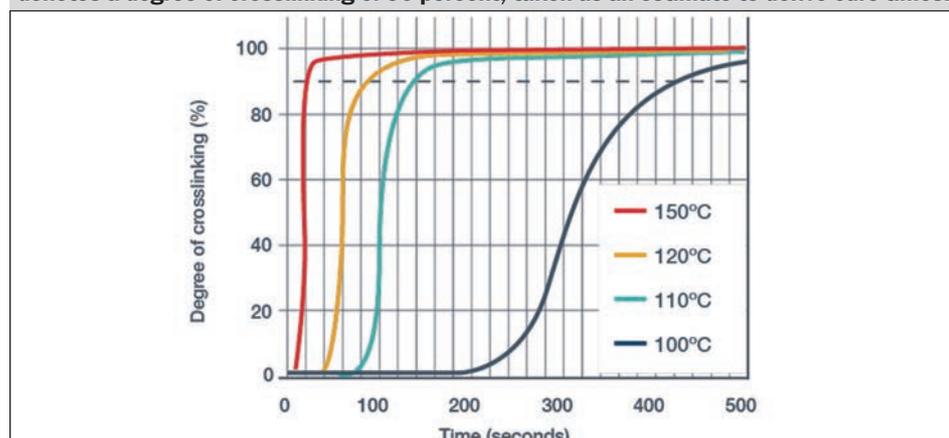


Fig. 3: Isothermal cure curves of a standard LSR as tested by MDR. The dotted line denotes a degree of crosslinking of 90 percent, taken as an estimate to derive cure times.



ity at the lower temperature range, and thus limits co-molding applications and new material combinations of LSRs.

A recent trend in evolution of LSR applications is to create LSR composite articles.<sup>6</sup>

In co-molding applications, LSR can provide reliable sealing, moisture protection, soft elastomeric elements or encapsulation of sensitive components. Examples include overmolding of electrical devices used in consumer electronics, automotive electrification and automation, or the en-

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# Technical

## LSR

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capsulation of functional additives in consumer and hygiene applications.

In these cases, conventional high-cure temperatures would lead to thermal decomposition of the encapsulated component. In overmolding applications, LSR is combined with thermoplastic substrates to produce hard-soft composites. Here the cure temperature is limited by the softening temperature of the thermoplastic. The use of conventional, high-tem-

perature curing LSR technology would lead to deformation of the plastic during molding, or to unacceptably long curing times and inefficient processes when cured at reduced temperatures.

The activation temperature of LSR cure is a function of many factors, including amount and type of platinum catalyst and inhibitor. Kinetic studies allowed us to derive key structure-property relations and enabled development of the new low temperature cure LSR series. In this new generation of LSR materials, the temperature activation threshold is shifted to below 100°C, with an onset temperature of 85°C. A new

class of LTC LSR is presented for use in a wide range of process temperatures.

### Experimental

The standard LSR used as a point of comparison was Silastic-brand RBL-9200-50 liquid silicone rubber from Dow, as the LTC LSR was Silastic LTC 9400-50 liquid silicone rubber and Silastic LTC 9400 acceleration additive.

The LSRs come in two parts and were mixed in a 1:1 ratio using DAC 150 FVZ SpeedMixer. The LSR was mixed three times at 2,000 rpm for 20 seconds, with manual hand mixing in between machine mixing steps.

Cure curves and cure times were measured using an Alpha Technologies MDR 2000 moving die rheometer. Temperatures were set at various ranges and cure curves were recorded for 1° arc for 10 minutes. Samples were prepared with 4-7 grams of mixed LSR material. Activation temperature profile was measured by differential scanning calorimetry (DSC) on Mettler-Toledo DSC 1 equipped with HSS8 sensor using a 10°C/min heat rate.

Injection molding trials used Engel eMac 100 equipped with CC300 digital control unit interface. The shutoff nozzle valve was supplied by Fluid Automation with Nexus Servomix pail pump. Injection screw was 30 mm in diameter and molds were made of stainless steel with surface polish.

LSR was injected between 5-160 cm<sup>3</sup>/s into molds at 120-160°C with 1,000 kN clamping force. The mold was 180 mm by 132 mm by 2 mm, and the shot weight was 44.2 grams.

For modeling, heat distribution was simulated using octave software, and mold flow analysis was completed by Sigma Engineering.

### Results

Standard LSR materials generally cure at elevated temperatures, about 160°C and above. Once the curing temperature was lowered to 100°C, the Tc90 (time to reach a degree of 90 percent of maximum cure) was greatly lengthened

to 420 seconds (Fig. 4). Even at 120°C, the LSR showed 90 seconds Tc90, compared to 20 seconds at 150°C, which is much closer to typical curing conditions.

LTC LSR demonstrates increased cure rates at low temperatures. Initial DSC results demonstrated that LTC had a significantly lower onset temperature of  $T_{onset} = 85^\circ\text{C}$ . This shift in (Fig. 5) activation temperature significantly increases the reactivity in the targeted low temperature range 100-120°C as measured by Tc90 (Fig. 6). For example, at 100°C LTC LSR demonstrated a reduction of the cure time from 418 seconds to 245 seconds, a greater than 40 percent reduction of cure time.

Next, injection molding tests were done to validate the previous results. For evaluation, rectangular test sheets of 2 mm thickness and a shot weight of 44 grams were created. Molding tests were done in direct comparison to a standard LSR. The minimum heating time to obtain fully cured parts was recorded as a function of mold temperature (Fig. 7).

In good agreement with laboratory studies, the heating time at low temperatures is significantly reduced for the LTC LSR. As predicted, the relative benefits (shorter cure time) tend to decrease at higher temperature, away from the activation temperature range. This was a result of carefully balancing

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Fig. 4: Cure time (90 percent cure) of a standard LSR at varying temperatures, derived from cure curves of Fig. 3.

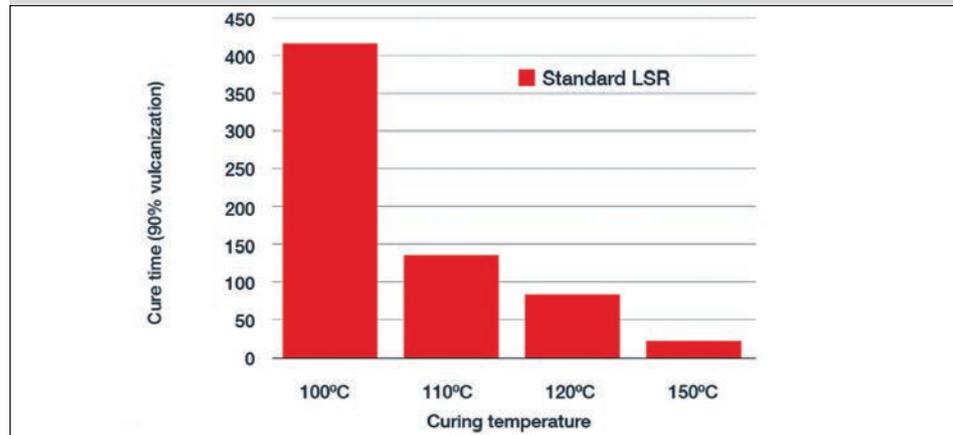


Fig. 5: DSC cure curve for a standard LSR (right curve, red), and Silastic LTC 9400-50 LSR (left curve, blue). Heating rate 10°C/min.  $T_{onset}$  is shifted from  $T_{onset, strd} = 101^\circ\text{C}$  to  $T_{onset, LTC} = 85^\circ\text{C}$  (see arrows).

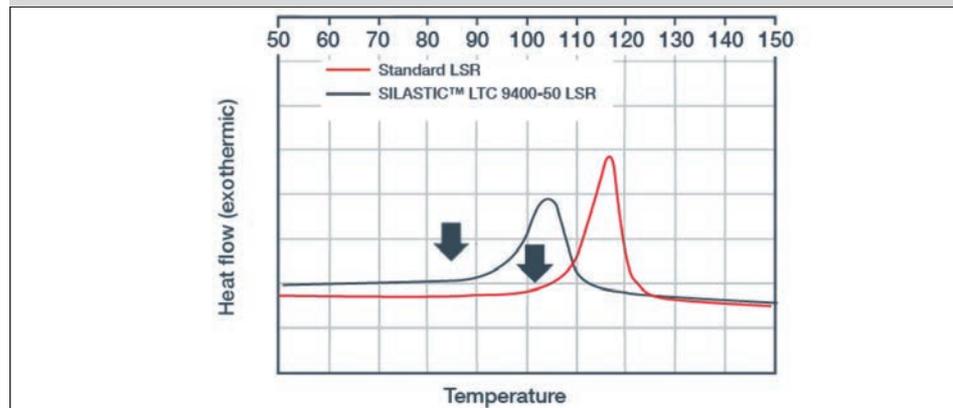


Fig. 6: Comparison of cure times (90 percent vulcanization) between Silastic LTC 9400-50 and a standard LSR.

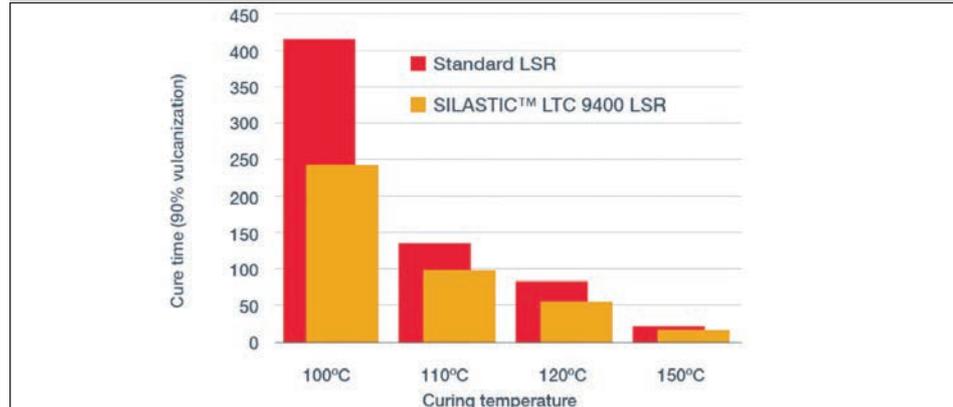


Fig. 7: Injection molding validation. Heating times as a function of temperature for conventional and low temperature cure (LTC) technology.

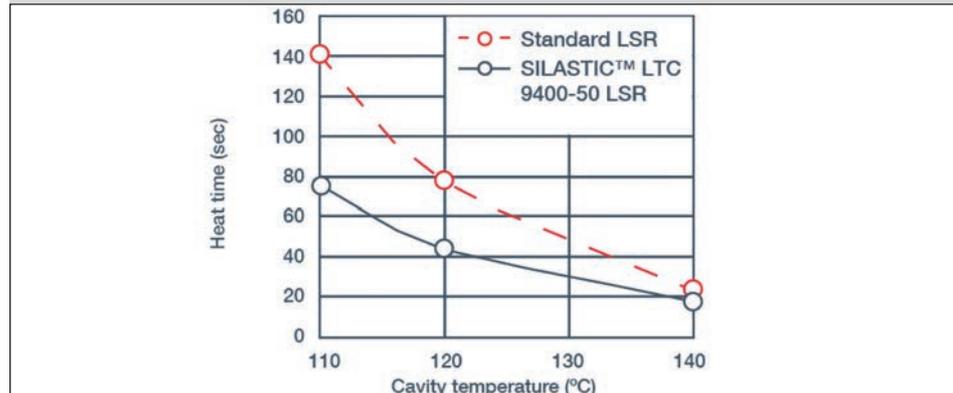


Fig. 8: Schematic representation of the computational heat flow simulation. A sphere of diameter  $r$  with initial temperature  $T_0 = 25^\circ\text{C}$  is exposed to an outside temperature  $T_{mold}$ . The temperature distribution in the sphere is then modeled as function of time  $t$  and cross-section  $r$ .

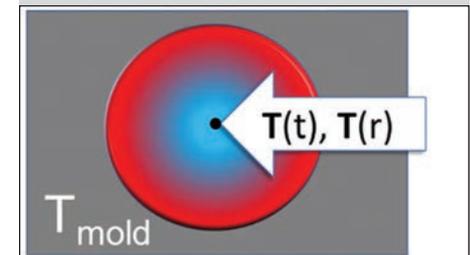


Fig. 9: Simulation of heat transfer in an LSR sphere of varying radii  $r = 1-3\text{mm}$ . At  $t = 0$  a temperature of  $T_{mold} = 175^\circ\text{C}$  is applied to the outside of the sphere. Graphs show the temperature at the center point (core temperature) as function of time.

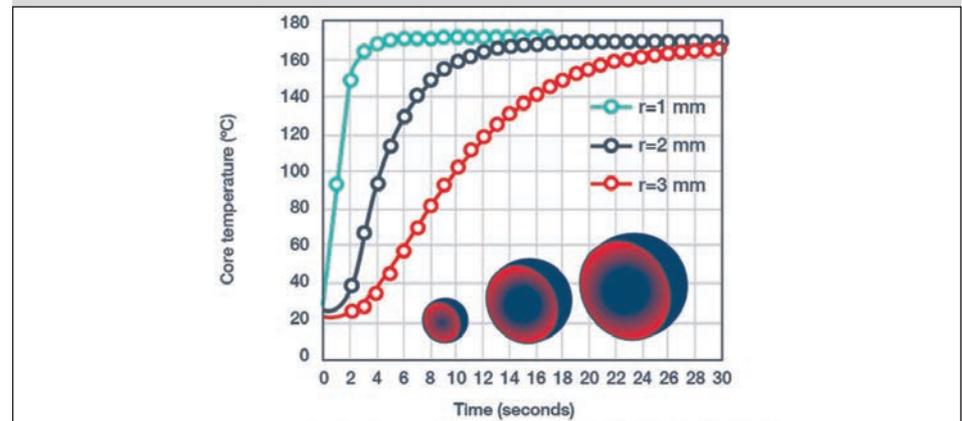
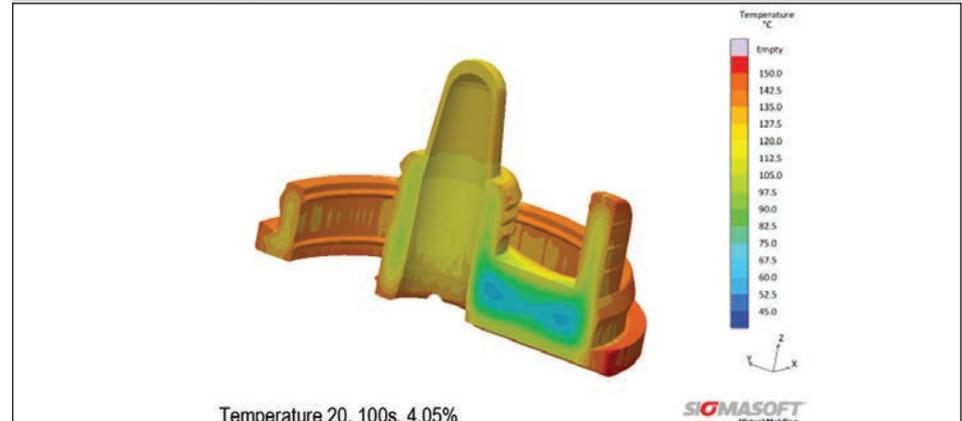


Fig. 10: Temperature distribution in a bottle ventilation valve 20 seconds after injection. Simulation done by Sigma Engineering.



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# Technical

## LSR

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reactivity to maintain an activation threshold well above room temperature, leading to enough room temperature stability.

The reduced sensitivity of LTC technology to temperature distributions and thermal gradients, which are unavoidable in practical injection molding, demonstrate an opportunity for significant productivity gains of thick-walled parts. To initiate cure, thermal energy heat needs to be transported into the bulk of the molded part. Silicones typically show low thermal conductivities  $\lambda$  in the range of  $\sim 0.22$  W/mK.<sup>7</sup> Thermal conductivity is thus a key property of the vulcanization process.

A computational simulation was performed to understand this important factor. LSR spheres of varying diameters were modeled with an initial temperature of  $T_0 = 25^\circ\text{C}$ . At time  $t_0$ , a constant external temperature was applied to simulate reflecting the mold temperature,  $T_{\text{mold}} = 175^\circ\text{C}$  (Fig. 8).

The temperature profile  $T(r,t)$  was then modeled as a function of cross-section,  $r$ , and time,  $t$ . To understand the behavior of the bulk, the temperature at the core of the sphere was plotted as a function of time for different spheres of 1-3 mm radii (Fig. 9).

At 1 mm radius, a uniform heat distribution was obtained after five seconds. Doubling the sphere dimensions to 2 mm showed a significantly longer time of 15 seconds to reach a temperature equilibrium. Finally, at 3 mm, the sphere requires more than 30 seconds to come to uniform temperature.

As these simulations have shown, large temperature gradients during molding are unavoidable, especially when producing thick-walled articles, and thus heat transfer is the limiting factor for the overall curing time. Considering the temperature dependence of LSR vulcanization, a temperature gradient directly translates into a reactivity gradient within the molded part: while the outer areas will be cured instantaneously,

the curing time of the bulk is limited by the thermal conductivity of silicone, resulting in slow heat transfer. The slow bulk vulcanization is thus the primary limiting factor for fast curing of thick-walled parts, even at high molding temperatures.

LTC LSR technology uses PDMS as its primary polymer and likewise also shows the inherent low thermal conductivity. While a similar temperature gradient exists upon heating, the lower  $T_{\text{onset}}$  of LTC LSR allows for earlier thermal activation in these cold areas, and consequently a faster bulk vulcanization. This reduced sensitivity to variations in temperature also can minimize effects of temperature gradients in the tool and contribute to more uniform cure and improved part quality.

This hypothesis also was tested by modeling. The temperature distribution in a bottle ventilation valve made of LTC LSR was investigated using Sigmasoft virtual molding in a molding simulation (Fig. 10). In agreement with previous results, large temperature gradients were found specifically in the thick-walled sections, which were up to 8 mm in diameter. In these areas, the bulk temperature did not exceed  $100^\circ\text{C}$ , even 20 seconds after mold filling.

As expected, fast bulk activation and short cycle times could be demonstrated on that part using LTC LSR. Other examples of thick-walled articles include electrical connectors in automotive applications, where larger part dimensions are necessary for increasingly higher voltages in electric vehicles. For these applications, an oil-bleeding low compression set LSR based on LTC technology has been added to the product portfolio.

To further enhance reactivity at low temperatures, a complementary material, Silastic LTC acceleration additive, was developed. The additive has low viscosity and can be added at one-to-three-weight percent during a process through the third-stream injector (Fig. 11). Dosing of the acceleration additive leads to a further reduction of the cure activation temperature (Fig. 12). DSC analysis showed that after the addition of 1 percent acceleration additive, cure onset can be further reduced from  $T_{\text{onset}}$

$85^\circ\text{C}$  to  $70^\circ\text{C}$ .

The impact of the acceleration additive was then evaluated on the cure time of LTC LSR. The additive had a significant effect on heating times as a function of temperature and dosing levels (Fig. 13 and Table 1). At  $100^\circ\text{C}$ , the curing times of LTC LSR can be further reduced from 245 seconds down to 66 seconds at 3 percent additive loading, a reduction of cure time of 73 percent.

For reference, a standard LSR will need greater than 400 seconds to cure at this temperature. Furthermore, this enhanced reactivity after additive addition expands the temperature range down to  $90^\circ\text{C}$ . At this extreme temperature, a standard LSR would need more than 20 minutes to cure, whereas Silastic LTC 9400-50 LSR was cured in 127 seconds using 3 percent additive.

Addition of accelerant also impacts the pot life. While the LTC LSR technology is designed to provide a pot life of  $>72$  hours, use of the cure acceleration additive incrementally reduces it (Table 1). Consequently, the acceleration additive is to be applied temporarily during the molding process to maximize reactivity in running molding operations.

At the end of molding, the addition is terminated to restore the original 72-hour pot life. The enhanced reactivity can help to minimize sensitivity to temperature gradients, both at low and conventional high molding temperatures. It should be considered as an optional component when complex part designs, thick-walled parts or new thermosensitive material combinations are needed to further push the boundaries of reactivity.

For LSR plastic-composite materials, molding conditions are particularly important to avoid deformation, haze and thermal stress on the plastic substrates. LSRs have been successfully co-molded and overmolded with engineering plastics, due to their high heat-deflection temperature (HDT). However, other thermoplastics, including polycarbonate and polypropylene, have significantly lower HDT, with polyethylene typically below  $100^\circ\text{C}$ .

As demonstrated, standard LSR materials can cure at such temperatures, and while possible, the very long cycle times would be commercially infeasible. LTC LSR displays great performance at

these low-temperature extremes, especially with the inclusion of an accelerant, enabling co-molding of LSR with low-melting plastics and opening new markets for 2K silicone molding.

### Conclusions

Low-temperature cure is a novel technology platform for LSR pioneered by Dow Silicones, enabling a step-change reduction in curing temperatures and resulting process cycle times. It enables new design options by allowing co-molding of LSR onto thermosensitive substrates and components in consumer, electronics and automotive applications.

At conventional high temperatures, Silastic LTC LSR allows for a fast bulk activation, resulting in enhanced efficiency and quality. A complementary additive approach allows manufacturers to further maximize reactivity, and to lower the application range to temperatures as low as  $90^\circ\text{C}$ .

The LTC LSR technology is considered a key trend in 2K applications, where self-adhesive LTC grades can open new performance levels in the co-molding of low-melting plastics, such as polycarbonates or polyolefins. For high-melting engineering plastics widely used in automotive and consumer applications, this new class of materials can enable increased robustness and process efficiency, by allowing for fast-bulk vulcanization and reduced sensitivity to interfacial temperature gradients inherent to 2K co-molding applications. These developments are covered in subsequent extensions of the Silastic LTC LSR material portfolio.

### Acknowledgment

The authors would like to thank Pierre Descamps for help with simulating heat distribution using octave software.

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Fig. 11: Schematic representation of the injection molding process. Components A + B of the low-temperature cure LSR are mixed in a 1:1 mixing ratio. Silastic LTC 9400 acceleration additive can be added to the process as an optional component.

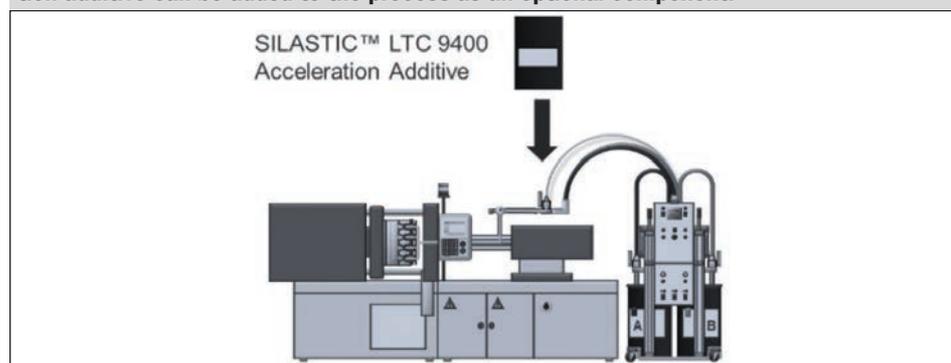


Fig. 12: DSC cure curves (from right to left): standard LSR, Silastic LTC 9400-50 LSR, and Silastic LTC 9400-50 LSR + 1 percent Silastic LTC 9400 acceleration additive. Heating rate  $10^\circ\text{C}/\text{min}$ .

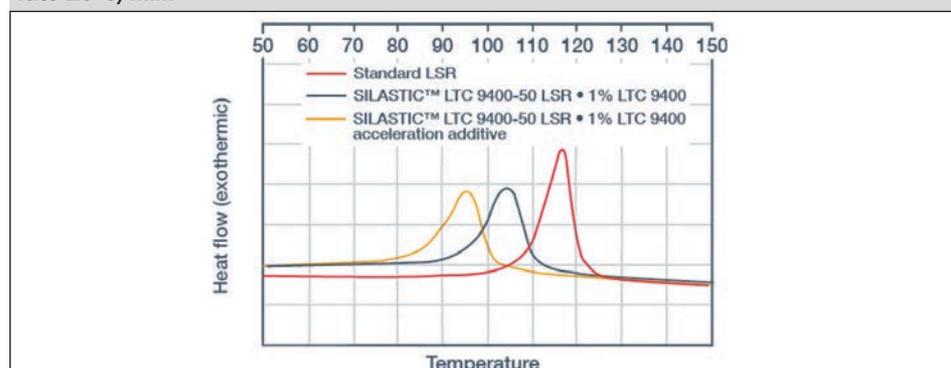


Fig. 13: Cure time of Silastic LTC 9400-50 LSR as a function of temperature, and Silastic LTC 9400 acceleration additive loading.

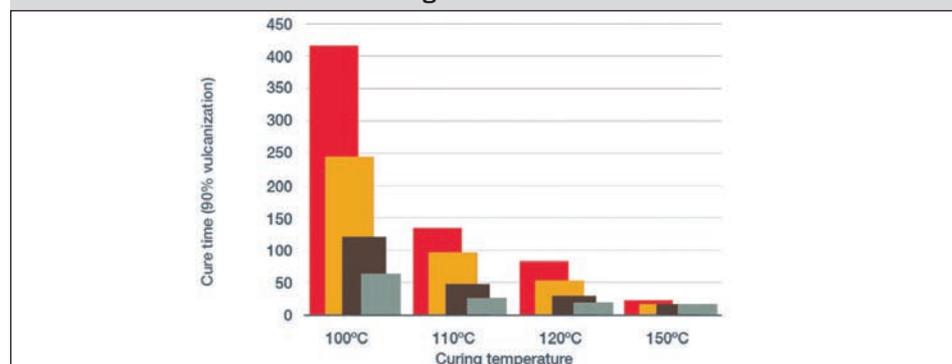


Table 1: Curing times (90 percent vulcanization) of Silastic LTC 9400-50 LSR at different concentrations of acceleration additive. For comparison, curing times for standard LSR are included.

Material	SILASTIC™ LTC 9400 Acceleration Additive, wt%	Curing temperature, °C					Pot life at 25 °C, h
		90	100	110	120	150	
Standard LSR	-	1500	418	137	86	23	>72
SILASTIC™ LTC 9400-50 LSR	-	427	245	101	57	18	>72
SILASTIC™ LTC 9400-50 LSR	1%	268	125	51	33	18	>24
SILASTIC™ LTC 9400-50 LSR	2%	180	85	38	26	18	>15
SILASTIC™ LTC 9400-50 LSR	3%	127	66	31	23	18	>9

# BRC jumps in to help on GM ventilator project

By Jim Johnson

Rubber & Plastics News Staff

FORT WAYNE, Ind.—BRC Rubber & Plastics Inc. is used to rapidly turning around orders for customers, but the Indiana company's efforts to create multiple parts for General Motor Co.'s COVID-19 ventilator project is even beyond what the company normally does.

For BRC, declining to help with GM's efforts to build thousands of ventilators to help battle COVID-19 was never a consideration.

The Fort Wayne-based maker of rubber, silicone and plastic parts is churning out six different parts at its Churubusco, Ind., facility that are being used in the construction of ventilators at a GM site in nearby Kokomo, Ind.

It was in early April that GM put out the call for interested suppliers to help the automotive company ramp up production of ventilators originally manufactured by Ventec Life Systems. In less than a day, BRC had identified which parts it could re-create and supply to the emergency project.

Initially awarded five different silicone parts, a sixth was added within a week, and BRC quickly went to work figuring out how to bring its portion of the project together.

Making parts for the automotive industry is BRC's bread and butter, and a close relationship with GM convinced the company it needed to step up and do whatever was needed to help with the ventilator effort dubbed Project V.

"It's a pride. It's a humanitarian effort. 'No' is not an option. It's got to be done and we're going to do it," said Scott Wellman, director of sales and marketing at BRC.

With that kind of attitude, it was clear from the beginning that this was not going to be a typical project. There was no consideration of details like bidding and profit margins, he said. Even now,



General Motors worked with Ventec Life Systems to boost production of the ventilators that have been much needed in the fight against COVID-19.

the company still has to sort out the financial details.

"Our executive management fully supported knowing going into this program that they were going to spend a lot," Wellman said. "There were no cost models put together. No quotes sent to the customer. The customer said, 'I need this. I need it now. ... Will you participate?'"

BRC readily admits it needed help to pull off a project like this.

"It could not have been done without the efforts of our outside supply partners, the tooling shops, the raw material suppliers and the teamwork of all of our internal people," Wellman said. "In less than two weeks, and in some cases just in a matter of days, we had all six of those part numbers tooled up."

Normal lead times, he explained, typically range from six to eight weeks.

"All of these suppliers have just moved mountains to be able to enable the production of ventilators. It's really been this tremendous call to action and dedication of so many people to make this happen. On the GM team supported by the UAW, on the Ventec team, the supply base. It's truly been incredible," GM CEO Mary Barra told CBS Evening News.

More than 90 Tier 1 suppliers are involved in the project, providing some 700 parts needed to make the ventilators.

BRC is both a Tier 1 and 2 supplier to General Motors, meaning they manufacture parts that go directly to the company as well as parts that go to other

companies that then supply the vehicle maker.

It's through this existing relationship that the company found itself on GM's Friday night telephone call with suppliers in late March, seeking help with the ventilator project. Interested firms had just until Saturday morning to filter through parts files and determine whether they wanted to be part of the effort.

With COVID-19 rapidly spreading and an uncertain future, the clock was ticking. And BRC was onboard.

Parts being created by BRC are being used to help build ventilators originally designed and constructed by Ventec of Bothell, Wash. When it became apparent that there was a need for many more ventilators than Ventec could build on its own, that company partnered with General Motors to seriously ramp up production in Indiana.

"Nothing is impossible for the combined power of American innovation and American workers. Together, Ventec and GM worked as one team, with one mission to deliver critical care ventilators in one month," Ventec CEO Chris Kiple said in a statement when Vice President Mike Pence recently visited the Kokomo facility.

But that also meant that GM had to develop its own parts supply chain to produce up to 200,000 ventilators in Indiana in an effort to complement Ventec's existing operations.

"A miracle of everyone pulling together, working tirelessly," Wellman said. "We wanted to be part of that. We asked our extended supply base to be part of it. Everyone stood tall and did what they had to do."

"We're used to doing rapid turn-around. Be it two weeks or a matter of days, that was a new challenge. But we knew we could do it," he said. "There's a sense of pride. ... This saves lives."

## ARPM survey: Staffing up, 'normalized' economy pushed back

By Andrew Schunk

Rubber & Plastics News Staff

INDIANAPOLIS—The Association for Rubber Products Manufacturers has been monitoring the health of the industrial, automotive and construction markets over the last five weeks through its "Rubber Industry Pulse Survey," and the trends are as varied by segment as they are in response.

The 8-question survey asks company leaders in each of the three primary rubber product markets to weigh in on operational levels; percentage of customers who are shut down; staffing levels; use or acceptance of payroll protection funds; and percentage of respondents experiencing supply chain disruptions that affect production.

The survey concludes with three forward-looking questions, one on future staff planning in the next six to 12 months; another on revenue forecasting through the end of 2020; and a final question on when company executives believe markets will normalize.

Week 1 data, which took responses from April 20-22, drew the fewest responses at 32; the fifth and most recent week, May 18-20, drew 93 respondents, according to the ARPM.

### Operational levels, customers shut down

Overall, operational levels May 18-20 changed very little from the previous week, with 54 percent of responding companies reporting that they are fully operational (down from 58 percent in weeks 2 and 3) and only 9 percent reporting that they are at less than 25 percent of production levels (up from 7 percent in weeks 2, 3 and 4), according to the survey.

ARPM offers a map link within the survey that contains information on where each state is with its re-opening plans and regulations.

Within each market, however, the trends vary, as 74 percent of industrial RPMs report being fully operational, while only 52 percent of auto supplier RPMs re-



port operations at 50 percent or higher.

In construction, rubber processors took a deep dive in the number reporting operational levels at 100 percent, from 75 percent in week 4 to 43 percent in week 5.

The ARPM survey in week 5 found an overall positive trend in the percentage of respondents with customers and OEMs who are shut down, meaning there was an increase in most respondents reporting that less than 50 percent of their customers are shut down, and a decrease in respondents who reported 90 percent, 80 percent, 60 percent and 50 percent of their customers being shut down.

For industrial rubber processors, 97 percent reported having at least 70 percent of their customers open, while construction dipped from 50 percent reporting no customer shutdowns in week four to just 29 percent reporting zero customer shutdowns the following week.

### Staffing

As states begin to reopen and customers at all points of the supply chain ramp up production, employers are bringing people back to work.

This trend is evident in ARPM's staffing question, as the percentage of rubber product companies reporting they are fully staffed—across all three of the primary markets measured—increased by 7 percent.

Rubber companies making products for the industrial market jumped 23 percent in the most recent survey, with 90-100 percent of those companies fully staffed. In auto, 59 percent of rubber product companies were between 50 percent and 100 percent staffed, while construction RPMs saw a small decrease (from 62 to 57 percent) who are re-

porting they are at a 90 percent staffing level or higher.

### Supply chain issues

Supply chain issues varied in the overall sense, with 6 percent of respondents moving from no issues to minor disruptions, but 5 percent moving from moderate issues to minor disruptions.

"A vast majority are still reporting either no disruptions (30 percent) or minor disruptions (64 percent)," the survey said. "While companies are not reporting major supply chain issues yet, supply chain disruptions are likely on the horizon, with manufacturers not fully feeling the impact yet."

### Revenue forecasting and a 'return to normal'

Perhaps most striking in these uncertain times of best guesses and changing predictions is that 64 percent of respondents in all three of the primary markets say they expect to see at least 75 percent of their revenue in 2020 based on their forecasts. This is a slight 2 percent drop from last week at 66 percent saying they will see 75 percent of their expected 2020 revenue. However, those rubber product companies forecasting 95 percent of their expected revenue for 2020 rose by 2 percent, from 21 percent in week 4 to 23 percent the following week.

Another positive trend was a big decrease from 26 percent to just 8 percent of rubber processors who believe they will see 50 percent of their 2020 forecast, according to the survey.

And the "return to normal" continues to look bleak for a majority of respondents, at least for 2020.

About 27 percent of responding rubber processors said they believe normal conditions will not return until "sometime in 2021." The highest percentage of respondents who levied their normalized outlook for sometime in 2020 was 15 percent of respondents who predicted the end of August.

For much more detail on the ARPM survey by industry segment, or to take the survey, visit arpminc.com.

# Thailand tops list of U.S. tire trading partners

By **Bruce Davis**  
Tire Business

WASHINGTON—After holding the distinction of being the U.S.'s largest trading partner in the field of new tires for the better part of the past decade, China slid to No. 5 last year as the value of its imports plunged nearly 50 percent.

Thailand, No. 5 on the list as recently as five years ago, is ensconced firmly on the top rung of the importers' ranking, with shipments valued at \$2.79 billion, up 25 percent over 2018 and nearly twice that of No. 2 Canada.

Thailand solidified its claim to the No.

1 spot in terms of passenger and light truck tires, with double-digit growth in both categories. It also took over the top slot in the truck/bus tire category, where the effect of elevated import duties on commercial tires from China ate into that country's numbers.

Thailand, along with two other countries and Taiwan, now is facing an import dumping inquiry from the U.S. International Trade Commission, at the behest of the United Steelworkers union.

Overall, the value of tires imported into the U.S. last year grew 1.1 percent to \$14.8 billion, while the value of ex-

U.S. trading partners - 2019			
Country	Import value	% Change	Key producer exporters
Thailand	\$2,789M	25.2%	Bridgestone, Continental, Deestone, Double Coin, Goodyear, JGST, Linglong, Maxxis, Michelin, Otani, Prinx Chengshan, Sentury, Sumitomo*, Vee, Yokohama, ZC Rubber
Canada	\$1,580M	0.7%	Bridgestone, Goodyear, Michelin
S. Korea	\$1,327M	2.5%	Hankook, Kumho, Nexen
Japan	\$1,255M	9.4%	Bridgestone, Sumitomo*, Toyo*, Yokohama
China	\$1,210M	-48.7%	Cooper, Double Coin, Giti, Guizhou, Maxxis, Prinx Chengshan, Sailun, Sentury, Triangle, ZC Rubber, etc.
Others	\$6,686M	9.9%	
<b>Total</b>	<b>\$14,847M</b>	<b>1.1%</b>	

Source: U.S. Department of Commerce; Tire Business research \*Sumitomo includes Dunlop and Falken brands; Toyo includes Nitto

ports fell slightly, to \$4.99 billion, pushing the nation's trade deficit in tires up 2.6 percent to \$9.85 billion, according to *Tire Business*' analysis of U.S. Depart-

ment of Commerce data.

In the passenger tire category, the 37.3 million units imported from Thailand represent 24 percent of the 154.5 million units imported overall, and are more than twice the number (17.2 million) imported from South Korea, No. 2 on the list.

The declared customs value of imported passenger tires last year was \$51.27, down 10 cents per tire from the 2018 value.

Among the 10 largest countries on the list, values ranged from \$24.89 for Vietnam to \$63.41 for Mexico.

In light truck tires, Thailand solidified its No. 1 spot over Canada with 15.5 percent higher shipments of 7.67 million units for the year. Canada's exports to the U.S. fell 15.8 percent to 3.52 million units.

Japan, Vietnam and Indonesia rounded out the top five with imports of 2.28 million, 2.13 million and 2.05 million units, respectively.

Overall, imports of light truck tires climbed 6.2 percent to 26.7 million units, the Commerce Department data showed.

The average declared customs value of an imported light truck tire improved 4.6 percent to \$75.67. Average prices among the 10 largest importing nations ranged from \$55.95 (Vietnam) to \$95.04 (Japan).

Based on the strength of an 89.1 percent surge in exports of truck/bus tires from Thailand, coupled with a 65.4 percent drop in shipments from China, Thailand surged to the top spot in that U.S. import category as well, according to the Commerce Department data.

Thai companies shipped 4.63 million truck tires to the U.S. last year, or roughly 31 percent of the 14.8 million tires imported overall. That figure is down 13.3 percent from 2018, the data showed, primarily because of nearly 6 million fewer units from China, which held onto the No. 2 spot with imports of 3.19 million units.

Canada, Japan and Vietnam rounded out the top five.

The average value of an imported truck/bus tire last year was \$170.03, up 9.4 percent over 2018, reflecting the drop in traditionally lower-priced units from China. Average prices ranged from \$113.57 for China to \$258.42 for Canada.

Among its major tire sector trading partners, the U.S. held a surplus last year with two nations—Mexico and Canada, at \$522.9 million and \$101.1 million, respectively.

These two nations represented 65 percent of the U.S. tire industry's exports by value, the data showed.

Mexico took in \$1.57 billion worth of tires from the U.S. last year and exported \$1.05 billion to the U.S., narrowing the surplus by nearly \$200 million from 2018.

Canada was the No. 1 export destination in 2019 for U.S.-made tires at \$1.68 billion, a slight drop from 2018. Imports from Canada were valued at \$1.58 billion, resulting in a much smaller surplus than in 2018.

The next largest export destination was Australia, which took in \$354 million worth of products from the U.S.

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# Tariffs

Continued from page 1

to reduced consumer buying power.

Vogue Tyre sources tires from both China and Vietnam after trying unsuccessfully several years ago to secure sourcing in the U.S.

Maxxis International said that as a company that has always prioritized the needs of consumers, it is “dismayed” by the USW’s petition.

“If the requested duties are imposed, supply chains for Maxxis and all other tire companies operating in the U.S. will be strained, leading to negative effects for consumers at an already challenging time,” the Suwanee, Ga.-based subsidiary of Taiwan’s Cheng Shin Rubber/Maxxis International said.

Maxxis said it “will be glad to cooperate with this investigation, and will provide documentation of the fact that we have never engaged in the activities described in the petition. ... Our trade practices have been fair and ethical throughout our U.S. operation, and we have scrupulously followed the law at all times.”

Maxxis has been importing tires into the U.S. for more than 35 years. Its presence here includes four distribution centers, a technical center and a tire/wheel

assembly plant.

Hankook Tire America Corp. said it’s still early at this stage in the process, before anything concrete has been decided, according to Peter Jung, senior vice president and chief operating officer of Hankook Tire America.

Hankook likely will work with the Korea Tire Manufacturers Association (KOTMA) in preparing for the upcoming hearings, Jung said, because the USW’s action concerns all South Korean tire companies.

If the U.S. were to impose duties, Jung said Hankook would be able to reorganize its global production portfolio and increase U.S. plant production to meet U.S. stakeholder demands.

As for KOTMA itself, the Seoul, South Korea-based trade group said its member companies have started to establish countermeasures, such as selecting consulting companies for accounting and legal advice.

KOTMA also is trying to seek ways of assisting the member companies through having related meetings with them and sharing related information with the government.

Joe Kao, operations manager at Federal Tire North America, said he isn’t concerned about the potential duties yet.

“We don’t believe there is a high risk for us as our export numbers didn’t surge, and our average pricing has been going up,” Kao said. “Besides, there’s no government subsidy, so countervailing

should not be applicable. We are confident and hopeful and will be going through the standard filing process.”

Richard Kuskin, president of tire importer/wholesale distributor Foreign Tire Sales Inc., said there are only two areas in the world with sufficient manufacturing capacity to meet the demand for tires in the U.S.—China and Southeast Asia.

Kuskin—whose company represents Thai tire maker Otani Tire Co. Ltd.—said, depending on the scale of import duties imposed (50 percent or higher, for example), the action could open the door for some Chinese companies to reconsider supplying the U.S.

This new action by the USW is “escalating the cat-and-mouse game” between the world’s major tire producers and the more cost-effective—but “quality varied” Chinese brands—to a whole new level, according to Mike Cheng, head of TBB Tires, the U.S. subsidiary of China’s Jiangsu General Science Technology Co. Ltd., which recently opened a plant in Thailand.

Cheng acknowledged that tire supply also is considered a strategic issue that can’t be left solely in the hands of foreign entities, as the recent crisis on personal protection equipment demonstrated.

“The question is, ‘What’s next?’ We have literally run out of countries that are either stable enough to invest in and to operate a tire factory efficiently,” Cheng said.

TBB Tires’ answer consists of three

things, he said: quality, service and price.

A tariff, he said, regardless of how much it is elevated, ultimately will end up as one thing: cost.

“Every customer wants the lowest price but the highest in everything else. Most companies see price as the only factor of business because it’s what everyone complains (about) the most.”

Roy Littlefield, CEO of the Tire Industry Association, said the petition filed by the USW is an indication of the tire industry’s growth and evolution. This is evident, he said, by the investments tire makers have made in China and Southeast Asia.

“The union, in seeking antidumping and countervailing duties, is looking to preserve tire manufacturing jobs in the U.S., while tire retailers have found success selling products imported from these countries,” Littlefield said. “It’s not surprising, therefore, to see this action taken by the USW.”

Companies and groups declining comment when contacted by *Tire Business* were: American Omni Trading Co.; Kenda Tire USA Inc.; Kumho Tire USA Inc.; Tire Brands America; Nexen Tire Corp.; and the U.S. Tire Manufacturers Association.

In addition, at least four companies have notified the ITC of their intention to participate in the investigation process: Atturo Tire Corp.; Bridgestone Americas Inc.; ITG-Voma Corp.; and Sumitomo Rubber North America Inc.

# Petitions

Continued from page 1

USW members,” USW International President Tom Conway said. “Even though demand for (these) tires increased, domestic producers were still forced to grapple with reduced market share, falling profits and lost jobs.”

Reaction to the USW’s action thus far has been pointed by a few, who noted that such actions of the past decade did little more than raise prices for consumers while preserving only a few jobs.

Most companies that replied to queries for comment declined to do so until they’d had more time to study the USW’s petitions.

By country, the increases in imports of passenger and light truck tires during the three-year period under review (2017-19) are:

- Thailand—up 28.2 percent to 45 million units;
- Vietnam—up 32.9 percent to 12.1 million units; and
- South Korea—up 2.6 percent to 19.2 million units.

Imports from Taiwan, by contrast, fell 15.7 percent to 9.13 million units.

Indonesia, No. 4 on the passenger tire import ranking and No. 5 on the light truck tire list, was not targeted by the USW. The union did not comment on why it didn’t include Indonesia in this action.

This is the sixth such action the USW has taken in the past dozen years covering tire imports. Among those are the AD and CV duty petitions on passenger/light truck tires from China in 2015, an action that yielded elevated import duties—over 100 percent in some cases—that are still in effect. They are cited as the reason for a 90-plus percent drop in shipments from China of those tires—fewer than 4 million units last year from nearly 60 million in 2014.

Coincidentally, these duties on Chinese imports are up for review this summer under the Commerce Department’s sunset regulations.

Chinese producers, looking for continued access to the U.S. market, have invested in production capacities in Thailand, Malaysia and Vietnam over the past decade as “offshore” sources for consumer tires to export to the U.S. without paying the elevated duties imposed on products from China.

“Slowing Chinese imports was vitally important to saving the domestic tire industry,” according to Kevin Johnsen, who chairs the USW’s Rubber & Plastics Industry Conference. “But Chinese producers found a way around our safeguards, and other bad actors are eager to take advantage of U.S. demand.”

The USW said its petition is the first to contain a currency undervaluation subsidy under new rules Commerce issued earlier this year. The union alleges the Vietnamese government’s systematic undervaluation of the Vietnamese dong in relation to the U.S. dollar con-

stitutes a countervailable subsidy.

“The USW has long sounded the alarm on the dangers of currency manipulation and its impact on trade,” Conway said. “Now, under the Commerce Department’s new rules, we must address it for what it is: an illegal subsidy.”

*Tire Business*, over the years, has tracked nine separate projects in these countries involving Chinese producers, with a combined investment value of more than \$2 billion and representing roughly 50 million units of capacity. Three of these projects, though, are for truck, bus and/or off-road tires, and four of them have only recently come on stream or are still under construction.

In its petition to the ITC, the USW requests that pricing data be collected on four specific tire sizes:

- 225/65R17, 100-105 load index, H speed rating;
- 205/55R16, 89-94 load index, H speed rating;
- P215/55R17, 93-98 load index, T speed rating; and
- LT245/75R16, 111-116 load index, R speed rating.

These are the same sizes tracked for the 2014-15 USW antidumping petition, but updated with more recent load index information.

The USW claims the legal right to file these petitions because it represents more than a quarter of U.S. workers affected by the dumping.

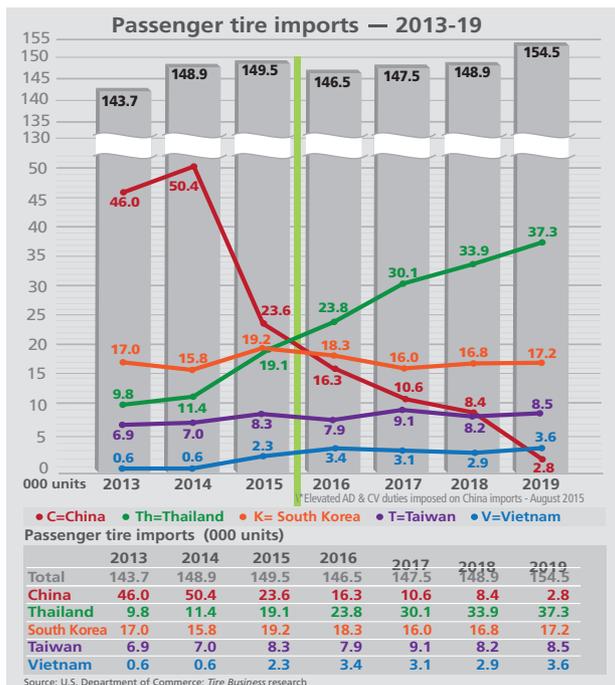
The Pittsburgh-based labor union represents approximately 15,000 workers at five firms that produce passenger/light truck tires in the U.S.—Cooper Tire & Rubber Co., Goodyear, Michelin North America Inc., Sumitomo Rubber North America Inc. and Yokohama



Conway



Johnsen



Tire Corp. The USW claims plants operated by these firms represent more than two-thirds of the U.S. industry’s installed capacity for such tires.

According to Commerce Department procedures, the ITC has until June 29 (45 days from the day the petitions were filed) to reach a preliminary determination on whether the U.S. should impose AD and/or CV duties on the targeted products. Commerce, however, has the power to extend that deadline.

According to the ITC’s summary of the USW’s petitions, the commission must “determine whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of passenger vehicle and light truck tires from (South) Korea, Taiwan, Thailand, and Vietnam ... that are alleged to be sold in the United States at less than fair value and alleged to be subsidized by the government of Vietnam.”

If the ITC agrees that AD and/or CV duties are warranted, it must transmit its views to Commerce within five business days, or in this case, by July 7 at the latest. Commerce then must undertake its own investigation to determine the extent of the injurious behavior and determine what, if any, duties are warranted.

In previous cases, this process has lasted months, and in one case—the USW’s 2016 complaint against Chinese truck/bus tires—took nearly three years to resolve as it initially was rejected then reinstated under appeal.

The ITC’s ability to investigate the USW’s claims are granted under the Tariff Act of 1930.

Because of COVID-19-related restrictions on access to the ITC building in Washington, the commission is conducting this preliminary phase investigation through written submissions, written testimony, etc.

Interested parties wishing to comment may do so by email at preliminaryconferences@usitc.gov. Make reference to investigations 701-TA-647 and/or 731-TA-1517-1520.

Parties wishing to submit documents must do so through the ITC’s Electronic Document Information System, edis.usitc.gov. Parties must set up an account through the EDIS to do so.

The deadline to submit written opening remarks and testimony is June 1, and June 8 for written briefs with information and arguments pertinent to investigation.

All written submissions must conform to the ITC’s rules, which can be found in the commission’s Handbook on Filing Procedures, available via the ITC’s website usitc.gov/documents/handbook\_on\_filing\_procedures.pdf.

Last year, Thailand was the No. 1 source of imported passenger tires into the U.S., with 37.3 million units. South Korea was No. 2 with 17.2 million, Vietnam No. 6 with 9.95 million and Taiwan No. 7 with 8.46 million. Together, that’s nearly 73 million units, or 47 percent of the 154.5 million total car tires imported.

Thailand also was No. 1 on the light truck tire import table, with 7.67 million units. Vietnam was No. 4 with 2.13 million, South Korea No. 6 with 1.99 million and Taiwan No. 9 with 671,154 units. Together they total 12.5 million, or 47 percent of the 26.7 million light truck tires imported.

**COVID-19** The coronavirus pandemic

# Bridgestone forging forward with new products

By Don Detore  
Tire Business

NASHVILLE, Tenn.—The COVID-19 pandemic may have altered the way the tire business—really almost every business—operates once the entire country is reopened, but don't expect one aspect to change for Bridgestone Tire Americas Inc.

The tire maker remains on track to expand its Bridgestone-



Higgins

and Firestone-brand product portfolio by more than 100 SKUs in North America this year.

TJ Higgins, global chief digital strategic officer and global chief business strategic officer, Bridgestone Corp., said the company is “pretty much on track” to launch every product planned, not only for this year but 2021 as well.

“Tire builds are more challenging to get done (remotely),” Higgins said during an interview with *Tire Business*. “We have been reallocating what we do and when we do it. But our teammates have been pretty adaptable and they are



Destination LE3

working safely and pretty effectively, and all of the product launches are still on schedule as planned.”

Among expansions of consumer products in the pipeline are:

- The addition of 66 sizes of the Firestone

Destination LE3 all-season light-truck tire, the company's No. 1 selling pattern; shipping to dealers began in April;

- New sizes for the Firestone Firehawk Pursuit (six sizes) and Firehawk Pursuit AWT (five sizes), bolstering the range for law-enforcement fleet customers;
- Eight additional sizes of the Firestone Destination X/T all-terrain light truck/SUV tire line, providing coverage for larger-rim diameter fitments;
- One additional size each for the Transforce CV and Winterforce CV commercial van tires, improving coverage for last-mile delivery vehicles; and
- Six sizes of the new Bridgestone Blizzak LM005 winter tire.

“Our (research and development) teams have been incredibly flexible,” Higgins said. “Our information technology team had us prepared in advance to work remotely. Our systems have been up and running pretty effectively throughout this difficult period. ... Our teams are available

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## COVID-19 The coronavirus pandemic

to effectively work from home.”

On the commercial side, Bridgestone will launch the Firestone FD692, a SmartWay-verified drive-axle tire that will be available in four sizes this year. It also will expand the Bandag MaxTread retread line for waste, over-the-road and last-mile delivery segments, increasing coverage to nine SKUs from eight.

“In addition to the new launches this year,” Higgins said, “we are laser-focused on ensuring that the development and industrialization for our 2021 planned launches are moving forward to ensure that our portfolio continues to be strong and provides the best support possible for our dealers as we move into recovery.”

Bridgestone—the No. 1-ranked tire maker in terms of fiscal 2018 global sales, as published in *Rubber & Plastics News’* 2019 Global Tire Report—has been able to weather the coronavirus storm, Higgins said, first by taking decisive steps early to fortify the supply channel, then by making difficult financial decisions to reduce costs once the pandemic hit North America.

That means that supply remains strong, despite a host of plant shutdowns of various lengths across the world.

“I feel very comfortable that our supply chain is ready to meet demand needs,” Higgins said. “We haven’t seen any issues yet, and I anticipate as we come out of this, that we are well-positioned to manufacture to demand.”

The plant shutdowns certainly provided the most significant savings as the pandemic hit. Bridgestone, like most tire makers, furloughed employees across its retail stores, manufacturing plants and corporate offices.

According to a spokesperson, the tire maker furloughed 7,000 of its 22,000 retail store employees, as well as several hundred employees who work at factories and corporate offices. Furloughs typically range from six to eight weeks.

In addition, executives across the company took voluntary pay reductions, ranging from 10-15 percent, “depending on roles and functions,” Higgins said.

“We’re looking—to the best of our abilities—to control our expenses that are discretionary and that are not being tied to activity needed today and consider our cash flow, so that we can support the business for the recovery that we are confident will come.”

Higgins said Bridgestone’s “financial position has been solid and remains solid coming into this crisis. Our company has done a nice job of managing our balance sheet.”

Higgins said the market seemed to bottom out in early April, down 30-40 percent, but the company is seeing a slight improvement as government programs start to roll out.

“Since stimulus checks started to come and the government was able to put some of those support programs in place, we did start to see a slight improvement on that negative,” he said. “It’s still very negative, but probably about 10 points of improvement from the low.”

Once states begin to open—Tennessee, where Bridgestone Americas is headquartered, was one of the first to do so—Higgins expects consumers to resume travel, ramping up tire demand.

Bridgestone has been in contact with its OEM customers, learning what vehicles they will produce initially so it can adapt tire production schedules around that OE demand.

The stay-at-home orders initiated across the U.S. and Canada have had some benefits, Higgins said.

First and foremost has been staying in close contact with customers, wholesalers

and dealers via video conferencing, as well as adapting to working remotely.

“In-person meetings are critical,” he said, “but maybe we can touch bases more frequently through video (in the future).”

“It keeps you closer. I’m optimistic that some of the challenges we have in learning to work remotely here will let us work more efficiently coming out of this crisis.”

Higgins also noted that consumers are becoming more comfortable with online activities as well as contact-less service, such as electronic appointments, curbside drop-off and a specific pickup time.

“That flexibility and planning is something they are really appreciating,” he said. “That concierge-type service could stay with us and could possibly create even more sat-

isfaction among customers that we serve.”

Higgins said Bridgestone has maintained contact with its dealer network, as the company has released 12 online training courses over the last six weeks.

“We’re trying to share with our dealers the things that we are sharing and learning, and that we’re hearing from other industries,” he said.

His message to dealers: Stay the course.

“Let’s keep that partnership. ... Be focused on customers and customer experience. As business starts to turn, all of us that are serving customers in a better way will be very happy with the growth that we’re going to see and the satisfaction from our end users that will make our business successful in the months and years ahead.”



Among the new additions, Bridgestone will introduce six new sizes to the Blizzak winter line.

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# ARPM

Continued from page 01

the GPG should break off and form their own association,” Braun said. “The RMA became increasingly involved in lobbying on tire-related issues, which drove up the costs of the organization.”

In addition, the annual meeting, the primary networking event for the GPG, was canceled and never re-instituted; tire members controlled more than 80 percent of the budget for the RMA, and consequently the GPG struggled to meet its share of rent and overhead costs through its member dues; and there were too few GPG members to continually add programming or members.

“It’s been great to see the increased membership and the increase in networking,” Braun said. “For me, the networking has always been the most valuable part of the organization, and the increase in networking opportunities over the last 10 years has been great to see.”

Braun said the three members of the pre-ARPM task force interviewed several association management companies to lead the new group.

“Ultimately, as a group, the GPG members selected First Resource and Troy to lead our organization,” Braun said. “Troy’s pitch was different. He basically said, ‘We did this and it got these results; we could do this to create more value for members; we could do these two things to drive membership growth.’ There was a lot more creativity and willingness to suggest ideas, which everyone in the GPG liked.”

The ARPM began collecting its own membership dues later in 2010.

“To combine this vision we’ve had, we’ve really been fighting the tide along the way,” Nix said. “Each and every day we are focused on providing value. You get



Charlie Braun, president of Custom Rubber Corp., said ARPM adds value for its members through networking, conferences and best practices.

what you give back into this organization.”

## All shapes and sizes welcome

Zelionople, Pa.-based Eagle Rubber Products Inc., a lathe cut gasket and seal firm with 18 employees, unleashed the confetti by becoming the 100th member of ARPM last month.

The firm is typical of the wide-ranging membership at ARPM, which comprises smaller family-owned businesses like Eagle and larger ones like Custom Rubber, which has 90 employees and 66,000 square feet, with sales between \$10 million and \$20 million per year.

T.J. Chickos, whose grandfather began Eagle as Castle Rubber, was searching for industry standards on a larger lathe cut gasket—in the 40-inch range—when he discovered ARPM.

“A lot of the reason we joined is that ARPM has standards for what we do,” Chickos said. “We realized that they were truly the only industry standard for that kind of lathe cutting. The literature stopped where we find our wheel-

house, and ARPM was amazing, putting me in contact with the right people.

“They looked like a great fit for us, and I feel like this is something we should be a part of. They have a lot of good resources and we’re looking forward to sharing them with the rest of company.”

Custom Rubber’s Braun said that many member companies ultimately have joined the group because, like Eagle Rubber, they were chasing ARPM’s technical literature.

“I’m very excited about the work that’s been done to revitalize and update all the technical standards that followed our group from the RMA GPG to ARPM,” he said. “Many of those standards hadn’t been updated since the late 1970s, and I think at this point, every one of them has been updated—in fact the Rubber Handbook is on its second revision under ARPM right now.”

Braun added that he also appreciates ARPM’s commitment to training material and systems.

“Many of the members cite training as the one area where help is most needed,” he said. “ARPM has the resources, thanks to its members, to drive the development of solid, industry-specific training that I’m really excited to use in our organization.”

Whereas the benefits provided to Custom Rubber by ARPM have been “too many ways to recount,” Braun said, a reciprocation in value is important.

“I think the thing I’m most proud of is the way our team pulled together and hosted the first plant tour event ARPM ever had,” Braun said. “We’ve since hosted another plant tour event more recently. It was a great opportunity for our team to present some of the things they work hard at every day and then to get feedback—mostly positive—and some ideas for improvement.

“And events like the Safety Summit and the Benchmarking Conference are invaluable. We always leave with a few gems that can be very helpful—sometimes transformative—for our organization.”

Chickos said he looks forward to “getting his toe in the water with ARPM.”

“We’re going to dive in soon,” he said. “We’re hoping to be as involved as possible.”



Members of ARPM tour a Zochem plant during an excursion organized by the group. Zochem manufactures zinc oxide.

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## Looking ahead

Nix said one needs to look no further than the present for challenges for ARPM, as the coronavirus pandemic has robbed the group of perhaps its most important line of communication—its conferences and plant tours, where elbows rub, best practices are learned and invaluable contacts are made.

“We grow our membership through our events,” Nix said. “This COVID crisis is absolutely horrific for an organization that prides itself on gathering and sharing, and now the entire currency system is out of whack.”

ARPM’s biggest event of the year, its Environmental Health and Safety Summit, still is set for Nov. 11-12 at the Cleveland Airport Marriott. The summit is designed to share best leadership and safety practices.

“It’s a big deal, two days worth of speakers,” Nix said. “There’s a mill safety series being discussed, which is important. But we can’t get in to plants to see right now. We have \$100,000 invested in a technical standards program for seals, belts and hoses which requires funding.

“But I suppose the silver lining is we are going to save on travel.”

Nix said the non-tire rubber product industry itself—and therefore ARPM—should continue to address its paucity in technical training, something in which other industries seem to be more advanced.

“Something that the industry continues to struggle with is we have to make the industry look sexier,” he said. “Whether that’s when you on-board people or with training and methodologies, we could be seen as somewhat behind other industries. You go into a plastics business and there is animation explaining what happens between parts—there is nothing like that in the rubber industry.”

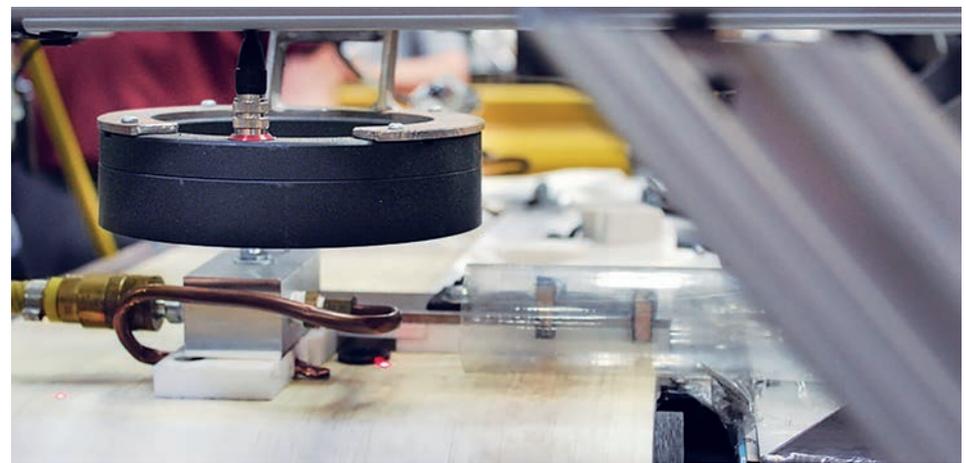
And as a military officer might “take the hill,” Nix said he is focused on bringing the ARPM out the other end of the pandemic and into a new age that will see the dawn of EVs and AVs.

And that means establishing diversity in markets outside of auto, on which non-tire is too reliant, he said.

“Last year during this time, I was at an innovation seminar, trying to get people to look to the future, especially with the development of EVs and AVs,” Nix said. “What is missing from them? They exclude reliance on our products. I want to open up the AV hood, and (have someone) tell me the difference between the hoses, gaskets, electrical. The amount of product dependent on auto—that’s a big issue for us. We need to try to explore where we can integrate products as we look ahead.”

Nix said reaching triple-digit membership, thanks to companies like Eagle Rubber, bodes well for the next decade.

“This is an exciting milestone,” he said. “We are grateful for the support of our founding members and continued work of our membership and sponsors for the good of the association and the industry. The ARPM team is proud to serve its members and the rubber industry and looks forward to the future.”



Custom Rubber Corp., which makes custom rubber molded products, was one of the founding companies of ARPM.

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