

closer and positioning CIN high-performance solutions as a quality response to the challenges of its customers. Available in four languages - Portuguese, English, French and Spanish - CIN's new Performance Coatings website can be seen at www.cin.com/performance-coatings.

Original Source: Paint & Coatings Industry, 25 Nov 2020. (Website: <http://www.pcimag.com>), Copyright BNP Media 2020.

PPG launches powder coating for heat-sensitive wood and composite applications

PPG has announced the introduction of PPG Envirocron HeatSense powder coating for heat-sensitive wood and wood-composite applications, such as medium-density fibreboard (MDF), hardwood, plywood and similar products. Engineered to complement the latest advances in low-temperature cure technology, PPG Envirocron HeatSense coating is formulated to overcome the barriers that have traditionally prevented powder coatings from being a viable option for the wood-finish market.

The coating can cure in as few as five minutes at 250 deg. F, be applied uniformly over heat-sensitive substrates and accommodate the shrinking and swelling of wood over the finished product's lifetime. The coating encapsulates the substrate with a smooth, durable finish, providing a moisture barrier and allowing freedom of design not possible with laminated coatings. When applied and cured properly, PPG Envirocron HeatSense coating enables wood manufacturers to finish their products in a broad range of colours, textures, special effects and antimicrobial-protected coating options, such as PPG SILVERSAN coatings.

Used in a one- or two-coat process, PPG Envirocron HeatSense coating can be cured quickly in a convection or infrared (IR) oven and is fully reclaimable, allowing for cost-effective and efficient production. In addition, the coating is formulated without volatile organic compounds (VOCs) and hazardous materials. It has an overall low carbon footprint when compared to solvent-based paints, stains and laminates.

Original Source: PPG, 2020. Found on Specialchem for Coatings (Website: <http://www.specialchem4coatings.com>), Copyright PPG 2020.

PPG to Buy Ennis-Flint

PPG has reached a definitive agreement to acquire Ennis-Flint, a global manufacturer of coatings with a broad portfolio of pavement marking products, including paint, thermoplastics and other advanced traffic technologies. The transaction, valued at approximately \$1.15 billion, is expected to close within the next few months, subject to customary closing conditions.

Ennis-Flint, a privately held company headquartered in Greensboro, North

Carolina, is a global leader in pavement markings and traffic safety solutions with the industry's most comprehensive and innovative product offering. Products are developed according to strict government guidelines and customer specifications, many of which are proprietary to the company. A high percentage of its product sales are derived from non-discretionary, essential maintenance spending.

Ennis-Flint supplies a wide range of products, including traffic paint, hot-applied and preformed thermoplastics, raised pavement markers and intelligent transportation systems from a network of manufacturing facilities within the United States, Europe, South America and Asia. The company employs approximately 1,000 people globally and its full year of 2020 revenue is expected to be approximately \$600 million, with mid-teen percentage EBITDA margins.

Original Source: Paint & Coatings Industry, 1 Dec 2020. (Website: <http://www.pcimag.com>), Copyright BNP Media 2020.

The Protech Group to Acquire Winslow Browning Inc.

The Protech Group, a coatings manufacturer headquartered in Montreal, Quebec, has reached an agreement to acquire the industrial coatings business of Winslow Browning Inc. (WBI), based in Liberty, Indiana. The acquisition is expected to close on Dec. 4, 2020. All manufacturing equipment as well as the manufacturing site located in Liberty, Indiana, will remain operational under the Protech Group banner. All employees will join the Protech Group. For over 30 years, WBI has manufactured high-performance liquid coatings for metal, glass, wood and plastic substrates.

Acquisitions continue to be part of the Protech Group's growth strategy. Earlier this year, the Protech Group announced the acquisition of the coatings division of ACG Industry, located in France.

Original Source: Paint & Coatings Industry, 1 Dec 2020. (Website: <http://www.pcimag.com>), Copyright BNP Media 2020.

Sherwin-Williams Releases Industrial Color Trend Forecast

The General Industrial Coatings division of Sherwin-Williams, through its DesignHouse, has published its second Color Trend Forecast. The forecast includes 21 colors, organized into three color collections that center around personas – Adapter, Alchemist and Advocate. Each persona and its corresponding color palette reflect an identity from the viewpoints of “me, we, us.”

Color trends from the Sherwin-Williams DesignHouse are forward-looking, reflecting trends that will be active three to five years from now. The product development process can take years, thus establishing color

trends in advance is critical to meeting OEM and consumer expectations.

“The Color Trend Forecast can be a powerful tool for our industrial, product and CMF design customers,” said Redhead. “It empowers them to get ahead of the product development process and differentiates their products in their markets.”

The Adapter, Alchemist and Advocate collections are inspired by culture, economy, environment, ethics, government, humanity, society, science, technology, engineering, wellbeing, transparency, uncertainty and trust.

Original Source: Paint & Coatings Industry, 18 Nov 2020. (Website: <http://www.pcimag.com>), Copyright BNP Media 2020.

Cortec Launches Silica-Free Version of MCI-309 to Protect Metal Surfaces from Corrosion

Cortec Corporation has launched a new version without silica of its MCI-309 migrating corrosion inhibitor for protection of metals within an enclosed space, such as PT tendons. To offer an effective and easy-to-apply solution to protect metal surfaces from corrosion, Cortec[®] Corporation has launched MCI[®]-309, a powder-based Migrating Corrosion Inhibitor[™], which can protect ferrous and aluminum metals located in recessed areas, interior cavities, and structural voids.

MCI[®]-309 is an efficient dry method of protecting metals within an enclosed space.

Upon application of the MCI[®]-309 powder in the void, it vaporizes and forms a molecular layer of corrosion inhibitors on the metal surface. If this layer is ever compromised (for example, by moisture or by opening the enclosed space), it will be automatically replenished by new vapour being continuously released from the powder carrier. It does not contain silica, silicates, phosphates, nitrites, or heavy metals.

MCI[®]-309 can be applied into a variety of tubular structures, pipes, and vessels where inaccessible or recessed metal surfaces are at risk for corrosion but are otherwise difficult to reach. This is why MCI[®]-309 finds wide application in the construction industry, both onsite and offsite, in which projects, especially large ones, may take several years to complete. MCI[®]-309 does not affect physical properties of concrete and grout (set time, strengths, etc.). Testing has also confirmed that the product does not affect strand pull-out strength compared to a control.

Several recent bridge projects exemplify the use of MCI[®]-309 for PT strand protection at various stages of construction. In the U.S., a new extradosed bridge crossing the St. Croix River Valley from Minnesota to Wisconsin opened in 2017 to improve traffic flow in the area. MCI[®]-309 has also been used for important new bridges in Europe. For example, a 5-mile (8 km) bridge being constructed in Denmark in 2018 was made of segments precast in Poland. MCI[®]-309 was applied at the

casting site to protect the PT cables according to design requirements until the segments could be grouted, which was not until 30 days after arriving at the final construction site. More info: <https://www.cortecmci.com/>

Original Source: International Paint & Coatings Magazine, 10 Nov 2020, (Website: <http://www.ipcm.it>), Copyright Eos Mktg&Communication Srl 2020.

Evonik Launches SPHERILEX DP-0115, A New Matting Agent for Powder Coatings

Evonik has launched SPHERILEX DP-0115, a new matting agent for powder coatings, which provides a matting effect, improving hardness and flexibility. SPHERILEX[®] DP-0115, the latest addition to Evonik's product line of SPHERILEX[®] precipitated silica, is a patented precipitated silica for matting of powder coatings. This grade of precipitated silica works as a matting agent for obtaining efficient, uniform, consistent and predictable matting in powder coatings, and can also improve the hardness and flexibility of the final powder coating.

The matting effect is not dependent on cure temperature and will work across chemistries and formulations. The main applications are for super-durable polyesters and clear acrylics for use in general industrial, automotive and architectural powder coatings. In order to ensure consistent and uniform high surface quality aspects, the SPHERILEX[®] DP-0115 has been developed in a patented process to minimize porosity and maximize sphericity of the particle allowing for increased loading in powder coatings without adversely affecting melt flow during cure.

It incorporates easily into the raw material pre-mix and disperses evenly through the extruder showing up uniformly distributed in the final powder. Due to its low oil-absorption and particle shape, it can improve the overall hardness of the final coating without sacrificing its flexibility. Finally, it can be post-added to reduce the gloss level of a high gloss powder coating. More info: <http://www.coating-additives.com>.

Original Source: International Paint & Coatings Magazine, 4 Dec 2020, (Website: <http://www.ipcm.it>), Copyright Eos Mktg&Communication Srl 2020.

Henkel Joins Pledge to Achieve Net-Zero Annual Carbon Emissions

Henkel is reinforcing its commitment to climate protection by joining The Climate Pledge, an international cross-industry commitment co-founded by Amazon and Global Optimism. As a signatory, Henkel commits to achieve net-zero annual carbon emissions 10 years ahead of the 2050 target set by the UN Paris Agreement, an ambition in line with the company's long-term target to become a climate-positive company by 2040.

The Climate Pledge was launched in 2019 and aims to unite leading global businesses in a forward-thinking and ambitious commitment to climate change. Henkel is the twelfth company to join the pledge. As a signatory to The Climate Pledge, Henkel agrees to: Measure and report greenhouse gas emissions on a regular basis; Implement decarbonization strategies in line with the Paris Agreement through real business changes and innovations, including efficiency improvements, renewable energy, materials reductions, and other carbon emission elimination strategies; and Neutralize any remaining emissions with additional, quantifiable, real, permanent and socially-beneficial offsets to achieve net-zero annual carbon emissions by 2040.

The Climate Pledge commitment is in line with Henkel's long-term goal to become climate-positive by 2040. In addition, Henkel wants to leverage its brands and technologies to help customers, consumers and suppliers save 100 million tons of CO₂ in a 10-year period from 2016 to 2025.

Earlier this year, Henkel's science-based emission reduction targets were approved by the Science Based Targets initiative (SBTi) as consistent with levels required to meet the goals of the Paris Agreement. The Science Based Targets initiative by CDP, the UN Global Compact, World Resources Institute and the World Wide Fund for Nature (WWF) defines and promotes best practice in science-based target setting and independently assesses companies' targets. For more information on Henkel's sustainability strategy, performance and progress, visit www.henkel.com/sustainability.

Original Source: Paint & Coatings Industry, 1 Dec 2020. (Website: <http://www.pcimag.com>), Copyright BNP Media 2020.

TECHNOLOGY

Thermoset powder coating wastes as filler in LDPE

In this study, three different electrostatic powder coating wastes of thermoset structure were used as fillers for low-density polyethylene (LDPE). The mechanical, thermal, and morphological properties of these composites materials are reported. The thermoset powder coating wastes were hydrolyzed using water and alcohol, and then 10%, 20%, and 30% by weight of the deactivated wastes were mixed with LDPE, first in a mechanical dry mixer, and subsequently homogenized by melt compounding in an extruder at about 160 °C.

Standard tensile test bars and plate-shaped samples were produced from these homogeneous compounds by injection molding. The effects of adding hydrolyzed powder coating wastes on the properties of

LDPE were determined by mechanical, thermal, and morphological tests. Tensile strength and perforation threshold of the sample filled with powder coating wastes decreased to some extent compared to unfilled sample. However, an increase in izod impact and bending strengths has been observed. The results of this investigation demonstrate that powder coating wastes with thermoset structure can be used as fillers in LDPE.

Original Source: Polymer Testing, Volume 93, January 2021, 106897, Copyright Elsevier 2020.

Superior anticorrosion performance of epoxy-based composites with melamine modified graphene oxide

In order to improve the dispersion of graphene in epoxy resin, the preparation of melamine modified graphene oxide (M-rGO) is reported. The π - π interaction between melamine and graphene oxide (GO) sheet is confirmed via ultraviolet-visible spectroscopy, Raman spectroscopy, and X-ray photoelectron spectroscopy analysis, which endows M-rGO with well dispersion. The dispersion concentration of M-rGO in dimethyl sulfoxide is up to 9 mg/ml, and the stability of which keeps more than 18 months. The anticorrosion performance of M-rGO/epoxy composite coatings was analyzed through electrochemical measurements and salt spray tests, these results indicate that M-rGO has a good barrier effect on corrosive medium and even can replace zinc powder in zinc-rich epoxy. In addition, the reinforced mechanical strength of M-rGO/epoxy composite coatings is proved via mechanical strength tests.

Original Source: Applied Polymer Science, Volume 137, 7 Sep 2020, Copyright John Wiley & Sons, Inc. 2030.

An Innovative Cooling White Paint

Engineers from Purdue University created a white paint that can keep surfaces up to 18 degrees Fahrenheit cooler than their surroundings, without consuming energy. According to Purdue University researchers, an innovative white paint could replace the need for air conditioning by absorbing almost no solar energy and sending heat away from the building. This paint is not only capable of sending heat away from a surface, but also from Earth into deep space where heat travels indefinitely at the speed of light. This prevents heat from being trapped in the atmosphere and does not contribute to global warming. Furthermore, with this technology, earth's surface would actually become cooler if the paint were applied to a variety of surfaces including roads, roofs and cars around the world, the researchers said.

The researchers said - based on tests carried out - that compared with commercial white paint, the paint they developed can