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Press Release

**Chinese Licensor Zhejiang Zonepic Petrochemical Technology Co., Ltd. Commissions
ABS Blend Manufacturing Plants Using Coperion ZSK Extruders**

**New, particularly energy-efficient process for manufacturing ABS
blends**

Stuttgart, September 2023 – Coperion has developed a process solution for particularly energy-efficient manufacturing of acrylonitrile-butadiene-styrene copolymer (ABS) blends, with the Coperion ZSK Mc¹⁸ twin screw extruder playing a key central role. Thanks to short raw material residence time in the ZSK extruder and gentle product handling, Coperion's process solution achieves an extraordinarily high ABS blend product quality.

ABS is a thermoplastic engineering plastic which combines numerous positive mechanical properties and chemical stability, which make it ideal for multiple uses in the electric and automotive industries.

Technology licensing and engineering company Zhejiang Zonepic Petrochemical Technology Co., Ltd. located in Hangzhou City, Zhejiang Province, People's Republic of China, is a licensor for the emulsion grafting-bulk polymerization ABS blend method which allows for the production of ABS blends in general grade, food grade, flame retardant grade and electroplating grade. For this solution the company has permitted to design several large installations with multiple ZSK 133 Mc¹⁸ twin screw extruders. Two systems have recently started production: one plant is at Lihuayi Lijin Refining & Chemical Co. Ltd. with an output of 200 KTA, and the other at Zhejiang Petroleum & Chemical Co, Ltd. with an output of 400 KTA.

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ZSK Extruders for maximum energy-efficiency

ABS blends consist of synthetic rubber polymers HRG and SAN (styrene-acrylonitrile). Coperion has developed a particularly energy-efficient process solution for manufacturing ABS blends. The ABS emulsion emerges wet from a reactor following its manufacture. In Coperion's solution, it passes through a screw press before the HRG – still damp – is introduced downstream via a Coperion ZS-B side feeder into the process section of a ZSK extruder. The energy-intensive thermal pre-drying of the ABS is thus eliminated.

Using gravimetric Coperion K-Tron feeders, SAN and additives are likewise introduced into the ZSK extruder. SAN, additives and HRG are intensively and homogeneously mixed in the ZSK process section, all the while handled very gently, so that the product does not yellow, nor does the polymer break down.

In comparison to conventional manufacturing processes, Coperion's solution operates with markedly lower energy consumption. Moreover, the portion of residual monomers is reduced to an absolute minimum.

Frank Lechner, General Manager of Process Technology and Research & Development at Coperion, is convinced of the importance of Coperion's development: "We're proud to see how both of these large installations from Zhejiang Zonepic Petrochemical Technology Co., Ltd. have successfully taken over production for ABS blends. These machines are already proving on a daily basis how energy-efficient their operation is. At the same time, they deliver a constant, extremely high product quality that underscores how our innovative process development precisely meets our customers' requirements. Even our newest development, providing a way to further reduce ABS production's energy consumption, has already met with great interest – as has our solution for manufacturing ABS blends for direct contact with food products."

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About Coperion

Coperion (www.coperion.com) is global industrial and technological company in the areas of compounding and extrusion machinery, sorting, shredding and washing equipment, feeding systems, bulk material handling and services. Coperion develops, produces, and services plants, machinery, and components for the plastics and plastics recycling industry as well as for the chemical, food, pharmaceutical, and minerals industries. Coperion employs worldwide 4,000 people in its three business areas: Polymer, Food Health & Nutrition, and Aftermarket Sales and Service, as well as in its 40 sales and service companies. Coperion is a subsidiary company of Hillenbrand (NYSE: HI), a global industrial corporation offering highly developed processing machinery and solutions that are relevant to processes for customers in a variety of industries around the world. www.hillenbrand.com

About Zhejiang Zonepic Petrochemical Technology

Zhejiang Zonepic Petrochemical Technology Co., Ltd. is an innovative technology company specializing in process package technology development, petrochemical new material development and application, material modification and terminal sales, petrochemical engineering design and EPC. Zhejiang Zonepic is committed to ABS, PMMA, α -olefin, POE, Adiponitrile, PA66, degradable plastics and other process package technology development and high value-added utilization of olefin and its derivatives. Based on the development of advanced process package technology, Zhejiang Zonepic develops high-end polyolefin processes and catalytic systems, collaborates with proprietary equipment development and sales, and drives engineering design and EPC business development; Based on the original petrochemical unit to provide energy saving and emission reduction transformation, process optimization design and technical consulting services.



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Coperion's ZSK Mc¹⁸ twin screw extruder is playing a key central role in this system for particularly energy-efficient manufacturing of acrylonitrile-butadiene-styrene copolymer (ABS) blends.

Photo: Zhejiang Zonepic Petrochemical Technology Co., Ltd.



Coperion has developed a process, built around the ZSK Mc¹⁸ twin screw extruder, for manufacturing ABS blends that operates markedly more energy-efficiently than conventional processes while delivering constant, very high product quality.

Photo: Coperion, Stuttgart Germany