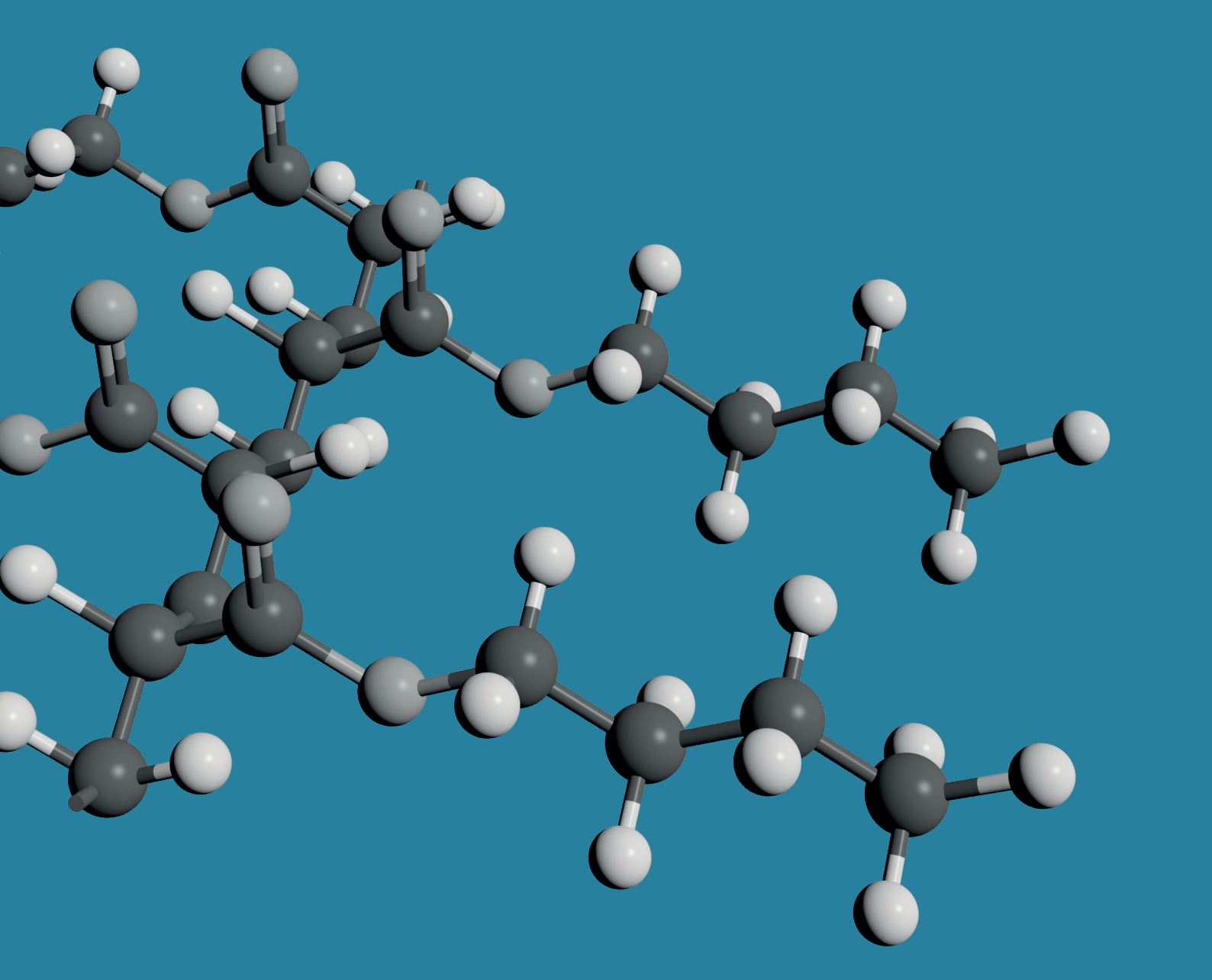


Kane Ace™ Modifiers for Engineering Plastics

Driving innovation through partnership



Kaneka Belgium NV

A company that realizes dreams through science

1970 marked the foundation of Kaneka Belgium in Westerlo, Flanders – as the company’s very first subsidiary outside Japan, and the first production site of a Japanese chemical company in Belgium. Since then, Kaneka Belgium has expanded its business and R&D activities to encompass diverse functional and foamed plastics solutions, developing and manufacturing specialty chemicals for applications in industrial, automotive, building & construction, packaging, consumer, DIY, and residential sectors.

Global network

Our parent company Kaneka Corporation is a leading technology-driven chemical company, with headquarters in Osaka and Tokyo, Japan. Through world-class science and technology, Kaneka provides innovative products and solutions to diverse markets around the world, responding to the needs of people, society and the global environment, today and tomorrow.

Aligned with the global business strategy, Kaneka focuses its activities on four strategic solutions units: materials, quality of life, health care and nutrition. Kaneka Corporation has three regional holding companies in Asia, the Americas, and Europe. Worldwide, Kaneka employs 10.500 people.

Our mission and vision

Our active network of resources – people, technology, operational excellence and know-how – is the source of Kaneka’s strength, driving our innovation and competitive participation in the global market. We strive to develop, produce and sell innovative and environmentally friendly chemical specialty products. We take pride in assuming responsibility for our employees, customers and stakeholders, and commit to comply with all rules and regulations.

As a mark of our high standards, we are continuously maintaining our management systems according to the latest requirements of ISO9001 (quality), ISO14001 (safety and environment) and ISO50001 (energy).

Corporate Social Responsibility

Kaneka Belgium believes that being sustainable – as an individual or as a corporation – should be an everyday practice, in which we will always go above and beyond. As a chemical company, we strictly measure our health, safety and environmental performances, in order to continue, to improve and to share our progress with all our stakeholders.

Kaneka Belgium NV, Westerlo



Kane Ace™ high performance polymers

Create a life changing impact through partnership

PERFORMANCE POLYMERS
SOLUTIONS VEHICLE
MODIFIER DIVISION

Our line of specialty engineered impact modifiers and processing aids are uniquely designed to meet the demanding physical properties required for various applications. Kaneka's specialty modifiers impart excellent low temperature impact, good colorability and excellent dispersion in most engineering thermoplastic matrices.

Kane Ace™ MBS impact modifiers

With over 40 years of experience and innovation, our methyl methacrylate butadiene styrene (MBS) modifiers lead the industry in performance and meeting our customer's challenging requirements. Kaneka Belgium offers a series of high-efficient MBS impact modifier resins for rigid and semi-rigid PVC applications and engineering thermoplastics.

The MBS core-shell structure consists of a butadiene based rubber core which acts to absorb or dissipate impact energy and a methyl methacrylate styrene graft polymer covering the core. This graft layer improves the adhesion between the polymer matrix and the impact modifier.

Kane Ace™ acrylic impact modifiers

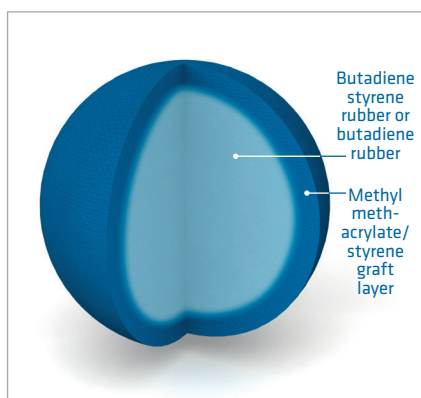
Kane Ace™ acrylic impact modifiers are high performance, all-acrylic impact modifiers for UV resistant formulations. The acrylic core-shell structure consists of an acrylic rubber core, which acts to absorb and dissipate the impact energy, and an acrylic graft layer. This acrylic shell layer improves the adhesion with the polymer matrix and facilitates the dispersion.

Kane Ace™ M “MBS” grades designed for engineering plastics

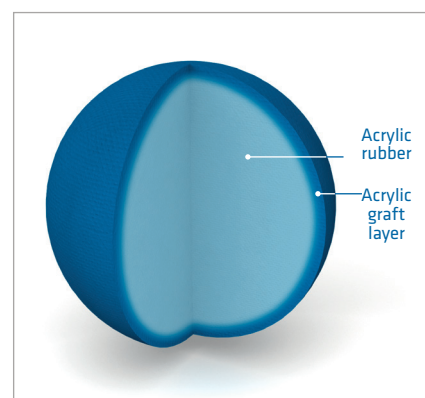
Engineering plastics are often preferred as light-weight substitutes for metals and are generally found in more high-performance applications. The Kane Ace™ M MBS grades are designed to improve the impact performance of engineering plastics, such as polycarbonate and blends, polyesters and polyamides. They provide an excellent ambient and low temperature impact resistance with a good retention of heat distortion temperatures and good colorability. Kane Ace™ M MBS grades also provide excellent impact retention, even after prolonged thermal and hydrothermal stress. They are used in automotive, E&E, packaging and building applications.

Kane Ace™ IM “acrylic” grades designed for engineering plastics

Kaneka's unique process ensures the production of consistently high-quality Kane Ace™ IM acrylic impact modifiers for use in engineering thermoplastics, such as polycarbonate and blends, polyesters, polyamides and polyacrylates. Kane Ace™ IM grades provide an excellent ambient and good low-temperature impact resistance while showing an excellent UV-stability. They are used in E&E applications (light colored) and outdoor home appliances.



MBS core-shell structure



Acrylic core-shell structure

Kane Ace™ specialty additives

Matting agent - Light diffusion

Kane Ace™ MP grades are acrylic based additives with excellent matting and light diffusing performance while keeping a good impact strength.. The outstanding weatherability makes it suitable for use in outdoor applications. It is mainly used for film and sheet applications, including PVC, PC, PMMA, etc.

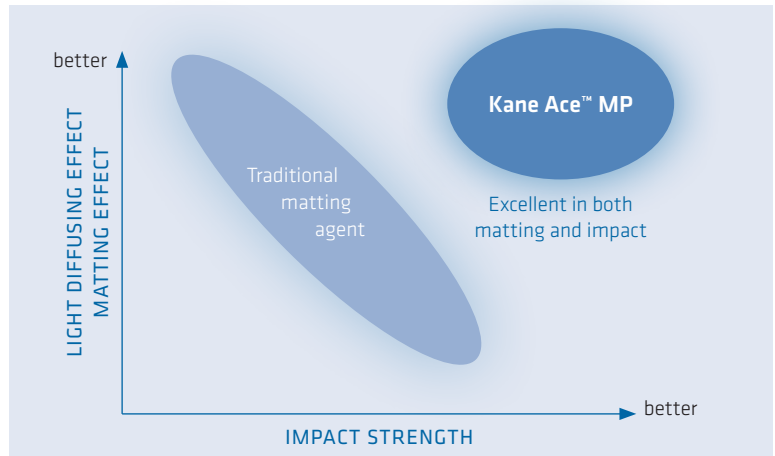


Figure 3 Kane Ace™ MP: matting/light diffusing effect vs impact strength

Impact modifier for flame retardant compounds

Kane Ace™ MR series are silicone based non-halogen, non-phosphorous additives which impart an excellent combination of impact performance while keeping a good flame retardancy.

Kane Ace™ MR grades are used in a variety of polycarbonate blends and other compounds which need high flame retardancy.

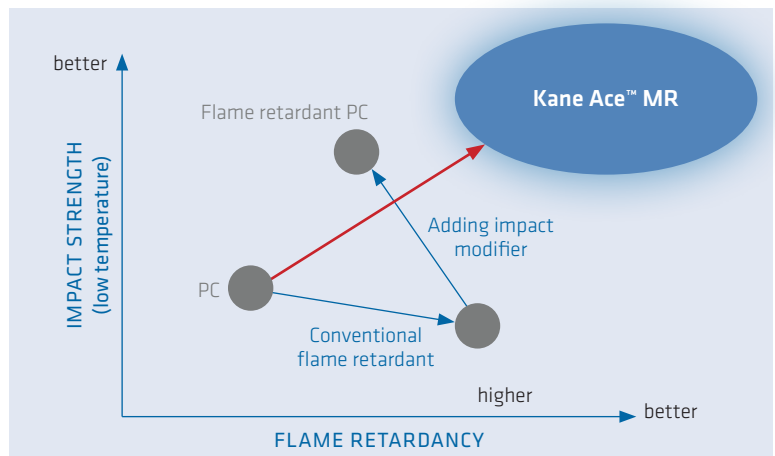


Figure 4 Kane Ace™ MR: impact strength and flame retardancy



Heat distortion temperature modifiers

Kaneka Telalloy series contains ABS and SAN copolymers, which significantly improves the heat distortion and vicat softening temperature of rigid PVC compounds. Enhanced heat resistant rigid PVC is mainly used for hot water supply pipes, electric cable protecting tubes and instrument panels of vehicles.

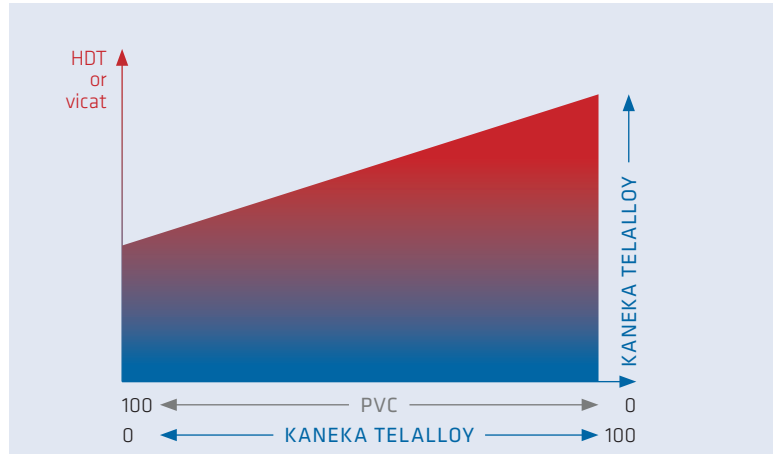


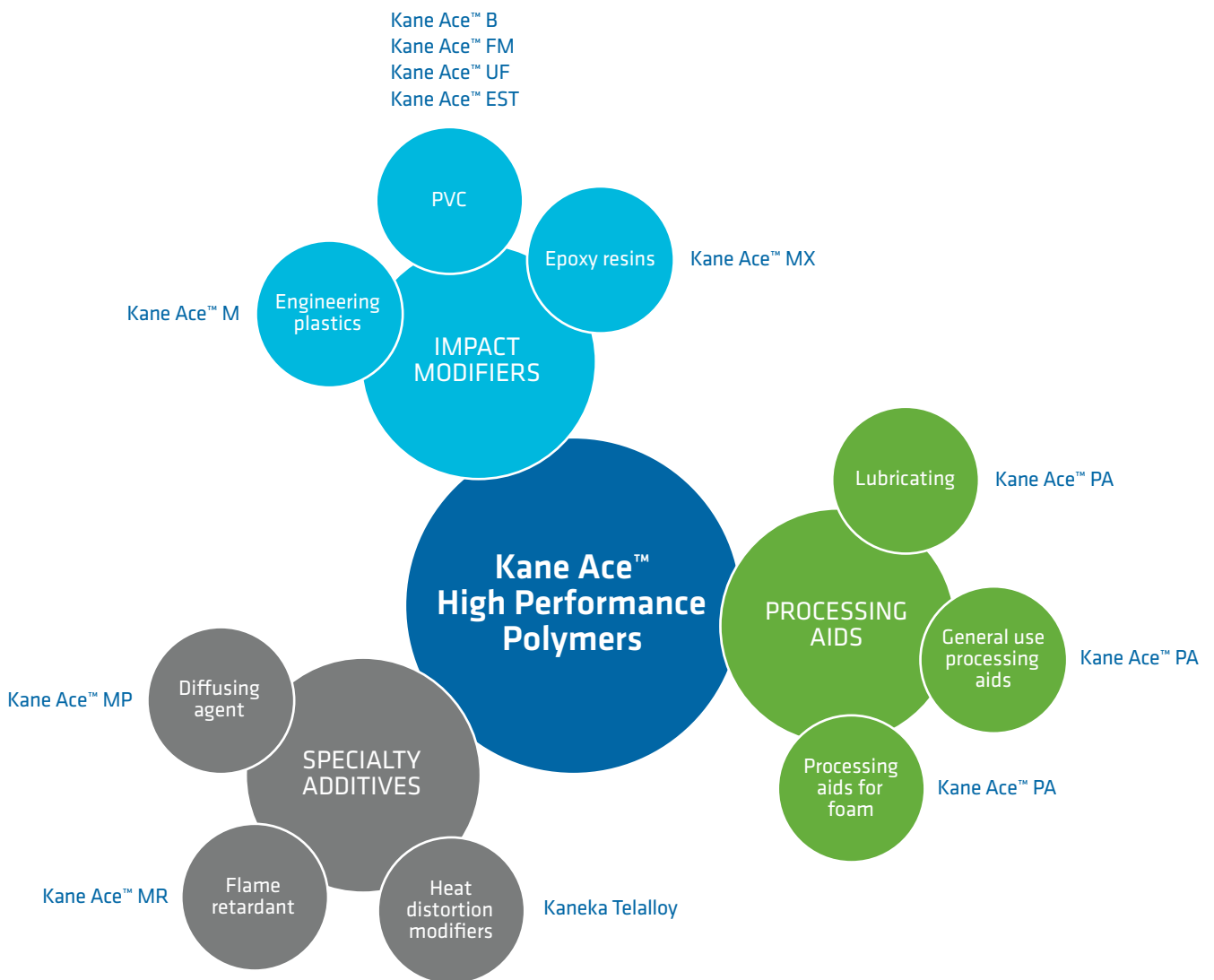
Figure 5 Kaneka Telalloy: heat distortion resistance



Kane Ace™ high performance polymers

Create a life changing impact through partnership

Years of experience and innovation in polymerization technologies have made Kaneka's polymer solutions today's market reference. Kane Ace™ polymers enhance the properties of PVC and engineering plastics. They cover a wide spectrum of market segments, including consumer products, industrial applications, the building and construction industry, flexible and rigid packaging, the automotive and E & E industry.



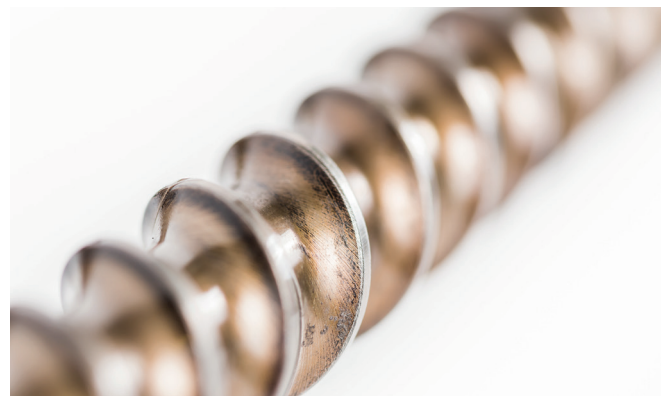
Technical service

Production of PVC and EP parts is a complex interaction of formulation, processing equipment and conditions. Kaneka Belgium is aware that each customer's situation and demands are unique. Kaneka Belgium's extensive knowledge of Kane Ace™ usage allows us to work with individual customers to optimize the function of the impact modifier and processing aids in their formulation, enhancing processing and finished-product performance.

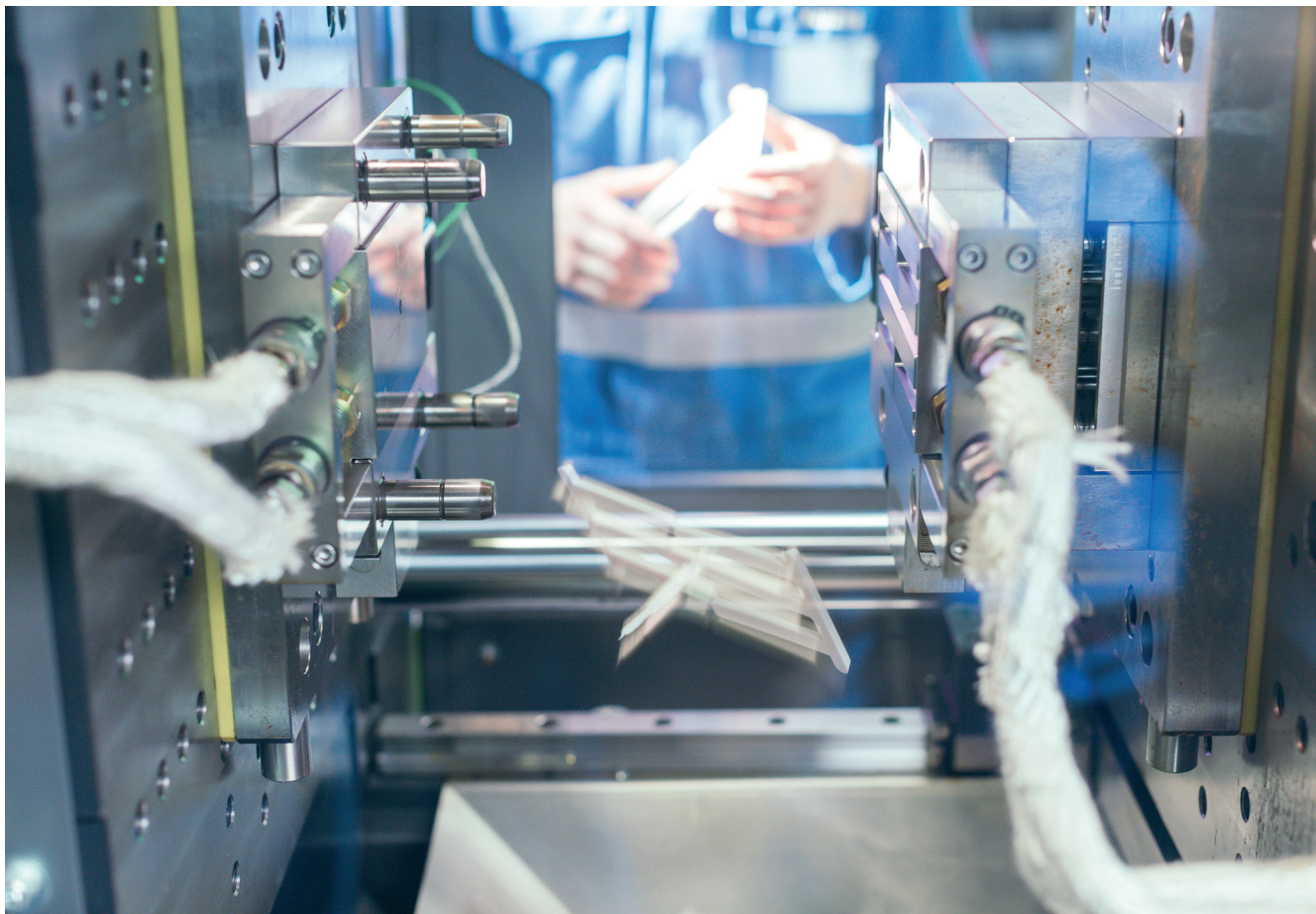
Processing

Kaneka Belgium has a modern, well-equipped laboratory to provide a high level of technical service for our customers. Various kinds of equipment are available to simulate laboratory, pilot, and industrial-scale processes.

- Mixing facilities
 - Two-stage mixing from 3 to 100 liter
- Two-roll mills
- Hot plate press
- Torque rheometer
 - Evaluation of the fusion behavior or thermal stability
- Liquid absorption
- Lab scale extrusion
 - Single screw extruders
 - Conical twin-screw extruder
 - 25 mm twin-screw extrusion compounding line with gravimetric dosing system and side feeders
- Window profile extrusion
 - Industrial scale window profile line with a 65 mm parallel counter-rotating twin-screw extruder
- Foamed profile extrusion
 - 145 mm wide profile using Celuka process on a 65 mm parallel counter-rotating twin-screw extruder
- Foamed sheet extrusion
 - Semi-industrial line with a 50 mm conical twin-screw extruder, producing 350 mm wide, 10 mm thick foamed sheet, offering a unique testing opportunity
- 75 MT electrical injection molding machine



Technical service facilities



Testing and quality evaluation

Kaneka Belgium supports customers by performing tests specified in current European Standards. In addition, more detailed testing can be performed to evaluate specific problems. A selection of frequently used tests is shown here.

- Charpy impact
 - Single V notch
 - Double V notch
- Izod impact
- Tensile impact
- Corner weld strength
- Flexural properties
- Tensile properties
- Impact by falling mass
- Crease whitening
- Gloss
- Vicat softening temperature
- Shore hardness
- Color, transparency and haze
- Fish eye tests
 - Bubble fish eyes
 - Roll fish eyes
- Static and dynamic heat stability
- Solution viscosity
 - Relative and specific viscosity
- MFR
- Foam structure by Microtome cut
- Foam density
- Melt viscosity
- Melt strength

- Surface roughness
- Foreign matter identification
- Differential Scanning Calorimetry (DSC)
 - Degradation or decomposition temperature
 - PVC gelation degree
 - Glass transition temperature (tg)
- Gas chromatography (GC + GC-HS)
 - Residual monomer analyses, impurity analyses of raw materials, volatiles...
- Gas chromatography – mass spectrometry (GC-MS)
 - Identification of substances within a sample
- UV Spectrophotometer
- Atomic Absorption Spectroscopy (AAS)
 - Measurement of metals into powder/liquid
- Particle size laser diffraction
 - Particle size distribution measurement of powder
- Dynamic Mechanical Thermal Analysis (DMTA)
- Fourier Transformation Infra-Red Spectroscopy (FTIR)
 - Qualitative and quantitative analysis of product ingredients
- VHX 5000 digital microscope
- Scanning Electron Microscopy (SEM) + X-ray Spectroscopy
 - Analysis of fish eyes in film or sheet
 - Analysis of contaminations
 - Measuring of particle size
 - Qualitative and quantitative elemental analysis/chemical characterization
- Karl Fisher titration
 - Moisture content
- Contact angle measuring system

Research and development

The cornerstone of our innovative technology lies within the research and development that we invest in all of our polymers. At our R&D lab, our teams focus on continually improving our products, exceeding quality expectations, and ensuring that we meet the latest international market trends and regulations.

Packaging | Regulatory information



Safety and handling information

Kane Ace™ products are combustible and may cause dust explosions under certain conditions. Before using Kane Ace™ products, always read the Safety Data Sheet and contact Kaneka Belgium for recommendations on proper handling and storage.

Regulatory information

All regulations governing the use of food packaging products must be observed in the country where the product is sold. Kaneka Belgium will assume no responsibility whatsoever for any consequences arising from failure to observe regulations.

Packaging

Kane Ace™ is available in 20 kg or 25 kg normal bags, 500 kg or 1000 kg semi-bulk bags or in bulk deliveries, depending on product type.

Disclaimer

All technical statements, information and recommendations in this catalogue are based on tests and data, which are reliable to the best of Kaneka's knowledge.

Due to possible variations of conditions and processing methods beyond our control, no guarantees or warranties are expressed or implied as to use, handling or processing of Kane Ace™. There is no warranty of merchantability and fitness for particular purpose. No suggestions are made in the catalogue whatsoever for infringement of any patents. We expressly disclaim liabilities for any damage arising from the use, handling or processing of Kane Ace™, as well as for the consequences, whether or not Kane Ace™ has been used, or is alleged to have been used, in accordance with the instructions given in the catalogue.

Kaneka in the world

PERFORMANCE POLYMERS
SOLUTIONS VEHICLE
MODIFIER DIVISION



For further information about our Kane Ace™ product range, please contact us. We will forward your request to a regional contact person.

e-mail: info.modifier@kaneka.be


Regulatory Information:

info.regulatoryppd@kaneka.be

Kaneka Belgium NV

Performance Polymers Solutions Vehicle
Modifier Division
Nijverheidsstraat 16
B-2260 Westerlo-Oevel, Belgium
Tel. +32 (0) 14 25 78 00
www.kaneka.be

 @Kaneka_be

 [https://be.linkedin.com/
company/kaneka-belgium-nv](https://be.linkedin.com/company/kaneka-belgium-nv)

Kaneka Belgium NV is part of
Kaneka Europe Holding Company NV.
Regional seat:
Alma Court
Lenneke Marelaan 4
B-1932 Zaventem, Belgium

