HENKEL AG & CO. KGaA

Foundation
- 1876

Turnover
- 15.092 million € (2010)

Employees
- Approx. 48,000 worldwide

Branches
- Adhesives, sealants and surface treatments for consumers, craftsmen and industrial applications

Key bio-based products
- Macromelt- bio-additives for plastic processing

Other products
- Loctite
- Teroson
- Technomelt

Henkel Excellence is our Passion

Company

Founded in 1876, Henkel holds globally leading market positions both in the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite.

Henkel, headquartered in Düsseldorf / Germany, has about 48,000 employees worldwide and counts among the most internationally aligned German-based companies in the global marketplace.

Henkel has three globally operating business sectors:

- Laundry & Home care
- Cosmetics / Toiletries
- Adhesive Technologies

Henkel is the world market leader in adhesives, sealants and surface treatments for consumers, craftsmen and industrial applications.

From our long tradition we have a well-balanced portfolio of International, regional and local brands. Henkel offers a multitude of applications to satisfy the needs of different target groups – consumers as well as craftsmen and industrial businesses.

It all began on June 22, 1923, when the very first delivery of adhesives left the Henkel facility in Düsseldorf, Germany. This historical milestone marked the birth of a business segment in which Henkel is now global market leader.

Products

Macromelt - new, patented Bio-Additives for plastics processing

Environmentally acceptable, petroleum-based packagings were the first step, but the trend is moving irreversibly in a different direction: Oil reserves are dwindling and ecological awareness is steadily growing. Bioplastics and biocomposites are therefore increasingly being called for as alternatives and supplements to the classic, petroleum-based plastics. The new high-performance additives from Henkel offer you the unique opportunity to take the lead in developing new materials that will also meet demanding market requirements for technical and engineering plastics. Macromelt polyamides have a high content of renewables – manufactured from natural oils such as rapeseed oil and Tall oil.

The benefits at a glance

Macromelt products are ideal for technical and engineering plastics, they are suited for extrusion and injection moulding processes. Using the patented Macromelt additives in bioplastics will bring you the following significant improvements:

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Products

	Macromelt 2420	Macromelt 6239	Macromelt 6786	Macromelt 6797	Macromelt 6900 E	Macromelt 7003
Termination	Acid	Amine	Amine	Amine	Acid	Acid
Bio-based content (%)	>50	82	>50	60	77	86
Softening point (°C)	123-131	133-145	85-95	115-125	135-145	190-200
Heat distortion temperature (°C)	35	<35	<35	<35	<35	60
Melt viscosity (mPas)	(180°C) 3,000	(180°C) 28,000	(210°C) 4,000	(180°C) 4,000	-	-
Melt flow index (g / 10 min)	-	-	-	-	10	95
Low temperature flexibility (°C)	-25	-15	-40	-20	-10	-25
Glass transition temperature (DSC) (°C)	-20	-10	-40	-15	5	-10
Tensile strength (N/mm²)	5,0	4,0	3,0	1,2	12,0	30,0
Elongation (%)	400	600	1,000	300	600	550
Shore Hardness (A)	32 (D)	82	85	64	90	47
Inpact toughness, un-notched specimen (kJ / mm²)	No fracture	No fracture	No fracture	No fracture	No fracture	No fracture

All products: Density 0,98 g/cm³, water absorption <0,5 %

- Improved adhesion to the fibres used, such as hemp, cotton, wood, coconut, glass, etc.
- Gentle treatment of fibres through lower processing temperature (< 200°C) during compounding
- Increase in bio-sourced content
- Reduced water absorption
- Improved feel
- Improved impact toughness

Macromelt, with its mild processing parameters, is well suited for production of natural-fibre composites. It achieves a significantly improved properties profile with outstanding fibre-matrix adhesion. It can also be used for compounding of glass fibre reinforced materials for extrusion or injection moulding processes.

Typical parameters for producing wood fibre reinforced plastics by injection moulding:

- Temperature in the mould: 30°C
- Processing temperature: 155-165°C
- Injection pressure: 250 bar
- Maximum pressure: 620 bar
- Injection speed: 25 mm/s

Contact

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