

Orevac® IM, a new range of high impact performance modifier for polyamide compounds

Arkema's range of polymer modifiers including reactive terpolymers and grafted polymers are widely used to improve the impact strength as well as the fluidity of polyamide (PA) compounds. From general purpose toughness to intermediate and super toughness, Arkema impact modifiers allow reaching requested specifications for PA6 and PA6,6. Two new grades, Orevac® IM300 and IM800 grafted polymers, have been designed to complete Arkema's range of impact modifiers which enables processors to play on various properties depending on the loading: fluidity in processing, impact resistance and mechanical strength of PA compounds. In addition, these PA modifiers are produced in USA to be closer to the American market.

The Orevac® resins are a unique range of reactive polymers due the grafting of anhydride groups. These products combine an outstanding the processability and the required reactivity with polyamides. The Orevac® IM grafted polymers meet the need to flexibilize engineering plastics such as polyamides.

Orevac® IM300 and IM800 new grades have been formulated to speed up the manufacturing productivity of these compounds while maintaining excellent impact resistance and mechanical properties.



Orevac® IM300 has been designed to combine an excellent fluidity with high impact resistance at room temperature. Thanks to its high fluidity, it opens up new opportunities in terms of processability of the compounds such as injection molding of small pieces with specific geometries or glass-reinforced PA.

Impact modifier	Impact resistance (kJ/m²)				Ductile/brittle transition (°C)	
	-40°C		23°C			
	PA6	PA6.6	PA6	PA6.6	PA6	PA6.6
IM300 (20%)	11	14	89	88	-15	-8
IM800 (25%)	18	26	87	103	-32	-34

Orevac® IM800 grafted polymer has been designed to achieve excellent impact resistance at low temperature such as -40°C with a very low ductile/brittle transition temperature. It is therefore recommended for specific automotive applications.

Orevac® IM300 and IM800 complete Arkema's range of reactive polymers with the Lotader® 4700 resin, already used for the modification of polyamides.



Products	Base	Melf Flow Index (g/10 min)	Melting point (°C)	Vicat (°C)
IM300	LLDPE	1.2	112	40
IM800	LLDPE	0.5	55	<40

Orevac® IM300 and IM800 grafted polymers are now available commercially globally through Arkema's local subsidiary and distribution network. They complete Arkema's impact modifiers portfolio:

- Lotader® 4700: general impact modification of polyamides.
- Orevac® IM300: high fluidity impact modification of polyamides.
- Orevac® IM800: high impact modification of polyamides at low temperature.
- Lotader® AX8840: general impact modification of PPS.
- Lotader® AX8900: general impact modification of PET and PBT.
- Lotryl® 35BA40: high fluidity impact modifier for PBT.
- Lotader®/Lotryl®: impact modification of PA and PBT for injection molding.

Arkema's range of Orevac® grafted polymers, Lotader® reactive terpolymers and Lotryl® acrylate copolymers offers a wide scope of solutions for the modification of main engineering plastics, including polyamides (PA6, PA6,6 and PA12), thermoplastic polyesters (PET and PBT), bioplastics (PLA), polyphenylene sulfide (PPS) and polycarbonate (PC).

For more information on Orevac®, Lotader® and Lotryl® impact modification solutions:

<http://www.orevac.com>

<http://www.lotader.com>

<http://www.lotryl.com>

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