

# OPTIPET™ 214M Speciality Polymers

## TECHNICAL DATA SHEET

OPTIPET™ 214M is a chain extender that can react with the chains of recycled Nylon scrap and restore its original properties.

### Applications

- Compatibilization of mixed polymer scrap such as HDPE/PP, Nylon/PE (laminated film scrap etc.)
- Impart finer dispersion as well as regular & stable morphologies to mixed scrap.
- Increase interphase adhesion and create alloys of commonly used polar polymers and polyolefins

### Key Properties

General	Typical Value (SI)	Test Method
MFI (190 °C/2.16 Kg)	4-8 g/10min	ASTM D1238
Density	0.914 g/cm <sup>3</sup>	ASTM D792
Bulk Density	0.50 g/ml	PLUSS® method
Epoxy Equivalent Weight	215 ± 15	PLUSS® method

Mechanical	Typical Value (SI)	Test Method
Tensile Strength	5 MPa	ASTM D638/2010
Percentage Elongation	2850 %	ASTM D638/2010
Tensile Modulus	0.26 MPa	ASTM D638/2010
Flexural Modulus	3385 MPa	ASTM D790/2010
Flexural Strength	0.94 MPa	ASTM D790/2010

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Hardness	Typical Value (SI)	Test Method
Durometer Hardness		
Shore A	64	ASTM D2240/2004
Shore D	8	ASTM D2240/2004

Thermal	Typical Value (SI)	Test Method
Melting Temperature	163 °C	DSC
Vicat Softening Temperature	36 °C	ASTM 1525/2010

### Storage and Handling Procedures

OPTIPET™ 214M should be stored away from heat, sparks and flame. It is non-hygroscopic and need not to be dried prior to use as it comes in pre-dried form. However, to have the best properties, it should be stored in a cool, dry and well ventilated place. Read and understand our Material Safety Data Sheet (MSDS) for more detailed information on the safe handling and disposal of these specialty polymers.

### Processing Conditions

OPTIPET™ 214M may be dry blended with hot PET pellets/granules. The temperature of the feed zone should be maintained below 150 °C while processing to prevent agglomeration. This chain extension reaction occurs at high temperature range (240 °C to 280 °C) which is a normal PET process condition. A process residence time of 1-2 minutes is recommended depending upon the pre-drying, starting I.V., end groups ratios and target melt viscosity. Maximum processing temperature should not generally exceed 320 °C.

### Packaging

OPTIPET™ speciality polymers are supplied in pre-dried form in 25 Kg (55 lbs) PE lined, HD woven sack-laminated paper bags and 500 Kg (1102 lbs) FIBC's. Depending upon customer's requirement, the bags can be further palletized for dispatch. They should be stored in cool and dry place.

The information given here is meant as a guide to determining suitability of our products for the stated applications. It is based on trials carried out by our laboratories and data selected from literature and shall in no event be held to constitute or imply any warranty. The products are intended for use in industrial applications. The users should test the materials before use and satisfy themselves with regard to contents and suitability in the desired application. Our formal specifications define the limits of our commitment. Recommendation herein may not be construed as freedom to infringe/operate under any third party patents. In the event of a proven claim, our liability is limited only to replacement of our material and in no case shall we be liable for special, incidental or consequential damages arising out of usage of our material. This datasheet is subject to change without notice.