

## FERROBOND E-189

FerroBond E-189 is a maleic anhydride modified linear low density polyethylene. With advanced anhydride grafting technology, this grade is used to combine multilayer structures involving Nylon 6, Nylon 66, or EVOH for gas barrier properties with variety of HDPE, LLDPE and LDPE grades for functions like, moisture barrier, sealability etc.

### Applications

- Maleic anhydride groups chemically react with amine groups of PA or hydroxyl groups of EVOH, while polyethylene part adheres naturally with polyethylene on the other side, thus giving a composite structure.
- Designed to use as a tie layer resin in conventional extrusion and co-extrusion equipments for making multilayer films.
- Can be used in its pure form as well as in diluted form, depending on the inter-layer adhesion required in the end-application.

### Key Properties

General	Typical Value (SI)	Test Method
MFI (190 °C/2.16 Kg)	1.3 g/10min	ASTM D1238
Density	0.890 g/cm <sup>3</sup>	ASTM D792
Bonded Maleic Anhydride	Medium	internal method
Yellowness Index	3.0	ASTM E-313
Melting Temperature	114 °C	DSC

Mechanical	Typical Value (SI)	Test Method
Tensile Strength @ Break	11 MPa	ASTM D638/2010
Elongation @ Break	700 %	ASTM D638/2010
Tensile Modulus	38 MPa	ASTM D638/2010

Hardness	Typical Value (SI)	Test Method
Durometer Hardness		
Shore D	40	ASTM D2240/ISO868
Shore A	98	ASTM D2240

## Storage and Handling Procedures

FerroBond E-189 is mildly hygroscopic and should be stored in a dry, cool and well ventilated area. It is supplied in pre-dried moisture proof bags and thus no need to dry prior to processing. In case of open bags, it is recommended that prior to processing, the requisite quantity of material to be used should be dried in a hopper dryer or oven at 80-90 °C for about 2 hours for obtaining best results. Read and understand Material Safety Data Sheet (MSDS) for more detailed information on the safe handling and disposal of these speciality polymers.

## Processing Conditions

FerroBond E-189 can be processed on most of the standard extrusion equipments designed to process conventional polyolefins. Maximum processing temperature should not exceed 280 °C. At temperatures above 280 °C, these speciality polymers can evolve low concentrations of fumes. If overheated, more extensive decomposition may occur due to exposure of overheated polymers to atmospheric oxygen. Adequate local ventilation should be provided to remove the fumes from the work area.

## Packaging

FerroBond speciality polymers are supplied in pre-dried form in 25 Kg (55 lbs) PE lined, HD woven cloth-laminated paper bags and 750 Kg (1653 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.