

# PLUSS<sup>®</sup>



Pluss Polymers is an offshoot of Manas, established to develop and market new technologies and products developed inhouse. Pluss Polymers was incorporated in 1993 to commercialise the technology for grafted modified polymers and alloys and blends. Backed by competent technical staff, laboratory facilities, a good library and technical database with a retrievable wealth of information marketed the OPTIM<sup>®</sup> brand of grafted polymers for the first time in India in 1996.

OPTIM<sup>®</sup> coupling agents and compatibilisers allow plastics manufacturers of world class quality products to *OPTIMise* their compound properties. The ADNYL<sup>®</sup> range of nylon alloys provide the user with extra tough nylon for increased strength.

Profiles and other rigid and flexible containers for thermal energy storage have also been introduced in India for the first time by Pluss Polymers.

## TECHNICAL DATA SHEET

Product : **OPTIM<sup>®</sup> E-137**  
Series : 100  
Description : Maleic Anhydride Grafted ULDPE.  
Appearance : White free flowing granules /pellets.

### Properties :

Density (gm/ml) 0.87  
MFI @ 190°C, 2.16 Kg 0.1  
MAH content (%) min High  
*High: 0.9 - 1.5%*

### Production Description

OPTIM<sup>®</sup> E-137 is ULDPE grafted with Maleic Anhydride and is meant for toughening of Polyamides such as Nylon - 6 and Nylon - 6,6. It gives excellent mechanical properties at extremely low temperatures (sub zero conditions) and with filled polyamides. It is also suitable for certain grades of HFFR compounds.

### Applications

This product is designed to produce a super tough nylon alloy based on Nylon 6 or Nylon 6,6. Mineral and glass filled nylons with enhanced impact strength may also be produced using this material. Best results are obtained when compounding is done in high shear machines such as twin screw extruders.

### Wire and Cables

OPTIM<sup>®</sup> E-137 is used as coupling agents for non-halogen flame retardant wire & cable compounds containing fillers such as Aluminium Tri Hydrate (ATH) or Magnesium Hydroxide (Mg(OH)<sub>2</sub>). It allows higher loading of fillers in EVA based polymers. Typically 2-6% of OPTIM<sup>®</sup> E-137 is recommended depending upon the filler content and properties desired.

### Recommended Use Level

2-6% for both HFFR compounding & filled Nylon, and for toughening 5-20% based on the weight of total. The actual addition level will depend on the impact strength desired.

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