

PE-HD LITEN™ MB 87

TECHNICAL DATASHEET

PE-HD FOR INJECTION MOULDING

MFR (190/2,16): 25 g/10 min

LITEN MB 87 is a high-density polyethylene produced by Unipetrol RPA using UNIPOL gas-phase technology.

Charakteristics

- C6 – copolymer
- natural pellets
- narrow MWD
- meets EN 71-3/9 Safety of toys
- meets European Pharmacopoeia 8 (Ph.Eur.8, 3.1.3)

International designation

17855-PE-HD,,M,57-D200

Application

- household products
- cups
- pails

Material properties (typical values, do not perform a specification of given grade)

Parametr	Test method	Unit	Value
RHEOLOGICAL PROPERTIES			
Melt Mass Flow Rate (190 °C /2,16 kg)	ISO 1133-1	g/10 min	25
Melt Mass Flow Rate (190 °C /5 kg)		g/10 min	60
Melt Mass Flow Rate Ratio 21,6/2,16		-	25
Shrinkage	ISO 294-3,4	parallel	3,3
		normal	2,8
MECHANICAL PROPERTIES			
Flexural Modulus	ISO 178	MPa	900
Tensile Modulus	ISO 527-1,2	MPa	900
Yield Stress		MPa	22
Yield Strain		%	10
Charpy Notched Impact Strength at 23 °C	ISO 179-1	kJ/m ²	3,5
THERMAL PROPERTIES			
Melting Temperature (DSC)	ISO 11357-1,3	°C	132
Vicat Softening Temperature (VST)	ISO 306	°C	123
HDT (1,8 MPa)	ISO 75-1,2	°C	42
OTHER PROPERTIES			
Density (23±1 °C)	ISO 1183-2	kg/m ³	955
Hardness Shore D	ISO 868	-	56

Processing Conditions

Parametr	Doporučená hodnota	Jednotka
Melt Temperature	200 - 260	°C
Mould Temperature	20 - 60	°C
Screw Length	min. 15 d*	-

* Screw diameter

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Appearance properties

PE LITEN is delivered in the form of natural pellets. Typical pellet length is (2 - 6) mm. Typical bulk density of PE pellets is (520 - 580) kg/m³.

Temperature properties

The products made of PE Liten may commonly be used up to 100 °C. For products with higher requirements on mechanical strength and stiffness the temperature should not permanently exceed 70 °C, intermittently 90 °C. The level of temperature stability is such that during common processing method, no material degradation occurs. With decreasing temperature, the toughness of the material decreases and below -30 °C, the materials becomes substantially brittle.

Physical-chemical properties

PE LITEN exhibits high chemical resistance at both normal and raised temperatures, due to its non-polar character. Within a broad range of temperatures and concentrations it resists to majority of acids, bases and salt solutions. It dissolves only in some solvents at raised temperature (e.g. in aromatic and halogenated hydrocarbons); furthermore, it doesn't resist to strongly oxidizing agents (e.g. nitric acid, oleum, halogens). Liten has practically no hygroscopicity, so it can be used in environments with variable relative humidity, without any risk of dimensional changes or changes of mechanical properties of the products. During processing, problems may be caused by moisture condensation during transfer of the material from a cooler to a warmer environment. At storage temperatures below 20 °C, it is recommended to condition the material about 24 hours prior to processing in the product on hall.

Hygienic approval

PE LITEN meets the requirements of the following regulations (as amended):

- Decree of the Ministry of Health No. 38/2001 of the Journal of Laws;
- Regulation of the European Parliament and the Council No. 1935/2004;
- Commission Regulation (EU) No. 10/2011;

Fire & Safety characteristics

PE LITEN is not classified as a dangerous substance in accordance with the Regulation (EC) 1272/2008 (CLP), nor does it satisfy any of the other conditions set out in Article 31 of the Regulation (EC) 1907/2006 (REACH). Therefore, the producer is not obliged to provide a Material Safety Datasheet. Information in accordance with Article. 32 of the Regulation (EC) 1907/2006 (REACH) and further details are provided in "Announcement", available on www.unipetrolrpa.cz or upon request.

Packaging, storage, transportation and delivery

PE LITEN is delivered in PE-LD (>PE-LD<) bags, mass 25 kg. 55 pieces of these bags are deposited on one pallet, fixed by a shrinkable PE-LD (>PE-LD<) film, protecting the product from damage and extending its lifetime. The pallets are intended for stocking into two, exceptionally into three layers. PE Liten can be alternatively delivered bulk loaded in car tanks. Alternative packaging or transportation is possible based on agreement with the customer. PE LITEN is stored in dry, ventilated, roofed storing facility, the premises of which are protected against direct sunlight. Recommended range of storage temperatures is -20 °C to +50 °C. The product distance from any source of heat shall be at least 1 m. The recommended storage time for PE Liten in closed (sealed) bags at defined storage conditions is one year. At longer storage time, it is recommended to check the material properties prior to processing.

Packages

The packages used by producer for packaging of PE LITEN grades are designed and manufactured in compliance with technical regulations for weight and volume of the product. Material of the packages does not contain any classified hazardous substances. The total amount of heavy metals (Pb, Cd, Hg and Cr VI) does not exceed the limiting value of 100 ppm. Recommended methods of waste utilization are material utilization, energy utilization.

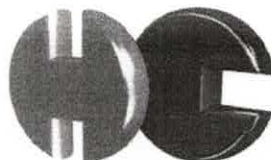
Instructions for waste disposal from PE processing

Products and non-contaminated waste during PE Liten processing can be recycled and further processed into products. Material designation >PE< is used in compliance with ISO 11469. Material designation on products enables material identification during collecting, classification, utilization or disposal of consumer waste. PE Liten does not contain any lead, cadmium, mercury or hexavalent chromium, i.e. total amount of these heavy metals does not exceed 100 ppm.

The PE waste is classified by the waste producer in accordance with the valid legal regulations.

Recommended methods of waste utilization are material utilization and energy utilization.

HAMPTON COLOURS



MASTERBATCH MANUFACTURERS

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PRODUCT DATA SHEET

PRODUCT REFERENCE NUMBER	HCR10P (previously known as HCM10P)
COLOUR	White
DESCRIPTION	Thermoplastic Versatile Colour Masterbatch (Concentrate)
RECOMMENDED ADDITION RATE	1% w/w
POLYMER BASE	Modified Polyolefin
HEAT STABILITY	300°C
LIGHT FASTNESS	8 on the Blue Wool Scale
POLYMER CONTENT	Approx. 25-30% w/w
PIGMENT CONTENT AND TYPE	Approx. 70-75% w/w blend of:- Rutile Titanium Dioxide (CI Pigment White 6) (CAS 13463-67-7)
PELLET CONFIGURATION	Regular, cylindrical strand cut pellet not exceeding 5mm in length
APPLICATIONS	Injection moulding in polyolefin, styrenic, acetal and polyamide materials
HAZARD RATING	Non-hazardous material
FOOD CONTACT STATUS	The pigments used meet the purity requirements of various EU food-contact legislation including AP89/1, German BfR IX and the French Circular 176 (Brochure 1227). In addition, it is recognised under FDA 21 CFR 178.3297 "Colorants for Polymers".
REACH STATUS	Compliant. All components are either registered, pre-registered or exempt from registration, as applicable. No SVHCs are intentionally added.
RoHS (2002/95/EC)/RoHS2 (2011/65/EU) (inc. DecaBDE)/WEEE STATUS and its subsequent amendment 2015/863/EU (RoHS3)	Compliant. No heavy metals or phthalates are intentionally added to this formulation. Please note that RoHS2 is no more restrictive in terms of ingredients, it just covers more final items (eg medical devices which were exempt from the original legislation).
PAH STATUS (EU 1272/2013/EC)	Compliant.
PFOS STATUS (EU 2006/122/EC)	No PFOS are intentionally added to this formulation
DISCLAIMER	Please note that the above information is given in good faith. As the use of this product is beyond our control, it remains the end-user's responsibility to ensure suitable testing has taken place to satisfy the end-use requirements. It is for this reason that we offer a free of charge initial sample. We have tested neither for the presence or absence of SVHCs, heavy metals, flame retardants, PAHs or PFOS. Additionally, given the many types of foodstuffs (oils, fats, grease, acids, alcohols etc) and the wide range of temperatures (from frozen storage at -18C to boiling temperatures and above for sterilization and pasteurisation) it remains the end-user's responsibility to perform migration testing and colour fastness on the final item. REACH, RoHS and FDA legislation is continually updated.