Producer: ROMPETROL PETROCHEMICALS / ROMANIA

LDPE MIDILENA B21

DESCRIERE PRODUS: low density polyethylene, homopolymer stabilized with slip agent. Ethylene monomer is the only monomer used for producing the macromolecular product. For producing the above mentioned grade there are not used plasticizers or colored master batches. The product has natural color.

APLICATIONS: extrusion, clarity films for packages, with a good transparency.

PROPERTY	TEST	UNIT	VALUE
APPEARANCE:	VISUAL	Uniform color granules without extraneous matter.	-
CONTAMINATION (oxidizes and other defects)	VISUAL/GRAVIMETRIC	Max. 0.01	%m/m
PHYSICAL			
MELT FLOW INDEX (3) (190 °C / 2.16 kg)	ASTM D1238	1,80-2,20	g/10min
DENSITY (23 °C)(1,3)	ASTM D792	0,919-0,925	g/cm^3
THERMICAL			
VICAT SOFTENING TEMPERATURE (1,2) (A –50°C/h-10N)	ISO 306/A	Min. 90	^{0}C
MECHANICAL/OPTICAL PROPERTIES FOR FILM (4)			
TENSILE STRENGHT AT BREAKE (2) (23 °C, v=500mm/min)	ISO 527/3		MPa
- Machine direction		Min. 13	
- Cross direction		Min. 11	
Elongation at break (2) (23 °C, v=500mm/min)	ISO 527/3		%
- Machine direction		Min. 200	
- Cross direction		Min. 300	
HAZE (3)	ASTM D1003	Max. 10	%
GLOSS, 45$^{0(3)}$	ASTM D2457	Max. 50	UL
SLIP AGENT CONTENT	Owner method	Min 350	ppm

1) The medium value of the physical/mechanical and thermical properties is measured on the standard samples made by compression process (ASTM D4703/C) conditioned at room temperature (ISO 291) or unconditioned (performed in one hour maximum from specimen output –nominal density)
2) Periodical tests.
3) Batch test.
4) Film Thickness - 40μm, Blow Up Rate 1:2

ADDITIONAL INFORMATIONS:

- The product compounds are listed in and are in conformity with Directive 2002/72/EC and Government Resolution HG 879/2005.
- Processing information:
  - Thermical profile recommended for extrusion: 160-2000C depending on the type of equipment.

QUALITY CONTROL: Control is performed on lots.

- Each lot will have max 65 tons. The lot will contain product of the same grade.
- During test operation, the product must comply all the parameters depicted in this standard specification.
- In case of litigation, the control of the quality will be done in the presence of the client representative, using the samples kept for those cases. The samples will be taken in accordance with the sampling procedure.

NOTE: All tests are performed using the supplier's testing machines.

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SAMPLING PROCEDURE:

Management quality –environment-health safety system is certified according to EN ISO 9001, EN ISO 14001 and OHSAS 18001 by Germanischer Lloyd Certification GmbH.

- Sampling will be done continuously during the lot formation.
- The initial samples will be mixed in order to homogenize it and the quantity of sample will be reduced by the "quarter method" to around 3 kg.
- The bags containing the samples are sealed and labeled.

NOTE: One sample is analyzed in the laboratory of the supplier, and other one is kept three months after delivery in this laboratory, for control in case of litigation.

DELIVERY: CP4 Euro pallets (1375 kg PP/pallet), big-bags (1000kg)

GUARANTEE: The product is guaranteed 3 months after delivery under the recommended "handling, transport and storage" conditions, according to FTS-03.

VALABILITY: The product is guaranteed 12 months after production data, under the recommended "handling, transport and storage" conditions, according to FTS-03 .The valability can be extended by a new inspection and evaluation of the quality.

DOCUMENTS: Certificate of conformity /Test report

HANDLING, STORAGE AND TRANSPORT INFORMATION: According to "SAFETY DATA SHEET" - FTS – 03. In case the polymer is stored in conditions of high humidity and fluctuating temperatures, the atmospheric moisture can condensate inside the packing. In this case it is recommended to dry the pellets before use. During the storage, polyethylene should not be exposed to UV radiation. Producer does not take any responsibility for damage caused by inadequate storage.

ADDITIONAL INFORMATIONS:

The MSDS is available by Sales Marketing Rompetrol Petrochemicals offices for the customers .The MSDS contains necessary information in order to ensure customers' own safe in handling and processing activity. The information below is related only to the delivered product.

Safety

Low-density polyethylene is an inert commercial polymer and under normal handling induces no hazard. Product storage must be in accordance with MSDS procedure. The working people should avoid skin or eyes contact with molten polymer. As a minimal precaution to prevent eyes injury, safety glasses are indicated. Fabrication areas should be well ventilated. Workplace environments should be kept clean and free of dust.

Fire hazard

Low-density polyethylene is a combustible substance, but under normal storage conditions there is no ignition hazard. In contact with flame it becomes soft, flows, ignites and burns with a light flame until exhausting. Therefore it has to be handled and stored avoiding contacts with open flames or other ignition sources. While burning, it releases high heat and a dense black smoke. In closed areas, fire fighters must use self-contained breathing apparatus.

Recycling

Low-density polyethylene is a recyclable material. It is recommended to recycle production rejects and wastes instead of disposal.

Disposal

Disposal of any wastes should respect all national and local valid regulations. The below information are related to Low density polyethylene homopolymer. The influence of the additives, fillers or other materials added by buyers must be taken into consideration using the related documentation. Low-density polyethylene homopolymer can be disposed by burying or by controlled incineration, respecting valid regulations regarding gaseous emission or solid particles discharges. Due to the high level of heat enduced, incineration has to be done only in dedicated units. In case of interring: low density polyethylene is inert, does not degrade quickly, form a strong and permanent soil base and does not release gases or other compounds known to pollute water resources.

The mission assumed by Rompetrol Petrochemicals is to build a strong partnership supplier/customer. Assuming this purpose, Rompetrol Petrochemicals intents to offer products of high quality for satisfaction of all customers' needs and expectations, to keep permanently contact with clients in order to acknowledge processing troubleshooting, to ensure technical support to solve them, to develop new products for existing or potential markets. Rompetrol Petrochemicals recognizes community concerns regarding his potential impact activity on the environment and therefore encourages his customers to review their processes from the human

health and environment point of view. In order to prevent using the products in manners for which they are not intended or tested, Rompetrol Petrochemicals offer to its customers product literature, including suitable Material Safety Data Sheet, that should be consulted prior to use its products.

NOTE: We assume no responsibility for using Rompetrol Petrochemicals products for other applications than those recommended in this technical datasheet. It is the customer's responsibility to inspect and test our products in order to assure himself as to their suitability for his applications.

NOTE REGARDING MEDICAL APPLICATION RESTRICTIONS: Rompetrol Petrochemicals does not recommend any company product for applications that involve human tissues or internal fluids contacts - regardless of the contact length of time, for cardiac devices, for medical device components that support human life, as well as for applications that have connections with human reproduction.