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DINALEN® 20
Low Density Polyethylene

Material Description

DINALEN® 20 is low density polyethylene containing no additives. It is primarily intended for blow film extrusion while other processing techniques can be used to a lesser extent.

DINALEN® 20 exhibits very good draw-down with good balance of stiffness, mechanical and optical properties of extruded film.

DINALEN® 20 is extruded at recommended melt temperature range between 175° C and 200° C.

Recommended film thickness: 0.050 to 0.200 mm.

Application

- Mechanically strong, glossy and slightly hazy film
- Many kinds of primary flexible packaging like heavy duty bags and FFS for foodstuffs, sanitary articles, chemicals
- Film for surface protection and lamination
- Heat shrinkable and stretch hood film for industrial bundling
- Film used in construction industry and agriculture
- Small diameter pipe extrusion
- Wire and cable sheathing
- Injection moulded thick-walled products
- Blown packaging and other shallow objects of up to 1 litre capacity
- Mixing and co-extrusion with suitable polyolefin grades

Typical Properties [5]	**Standard Method**	**Nominal Value**	**Unit**
Density [1]	ISO 1183	0.923	g/cm³
Melt flow rate (MFR) (190° C/2.16 kg)	ISO 1133	0.30	g/10 min
VICAT softening temperature (A50 (50° C/h 10N))[1]	ISO 306	96	°C
Melting temperature (DSC- air)	ISO11357	113	°C
Gloss (20°)[2]		>30	
Gloss (60°)[2]		>60	
Tensile strength[1]	ISO 527-1,-2	18	MPa
Tensile strain at break[1]	ISO 527-1,-2	750	%
Tensile modulus[1]	ISO 527-1,-2	200	MPa
Tensile stress at yield [1]		11	MPa
Shore hardness (Shore D)[1]	ISO 868	46	
Tensile strength MD / TD[3]	ISO 527-1,-3	25/ 19	MPa
Tensile strain at break MD / TD[3]		220/320	%
Dart drop test [2]	ISO 7765/1	260	g
Tear resistance[4]	ISO 6383-1	78 /52	N/mm
Coefficient of friction, static/dynamic [2]	ISO 8295	≥0.4	

[1] Test samples obtained by direct press moulding and the values given for tensile properties are mean values at testing velocity of 200 mm/min
2 Tubular films of 0,050 mm in thickness extruded on a lab extruder under following conditions: melt temp. .profile = 140 °C /180 °C /178 °C; Die gap=0,40 mm; Blow-up ratio=1:2,9; Cooling air temperature=25° C; Frost line height=100 mm; Film velocity at the nip roll=6 m/min
[3] Film obtained under 2, and the values given are mean values at testing velocity of 500 mm/min for samples tested in machine direction (MD) and transverse direction (TD) of extrusion
[4] Film obtained under 2, and the values given are mean values at testing velocity of 250 mm/min for samples tested in machine direction (MD) and transverse direction (TD) of extrusion
[5] Values given are typical and only informative

Additives	**Slip Agent**	**Anti-blocking Agent**	**Thermal Stabilizer**
	None	None	None

Storage and Handling

DINALEN® 20 is packed in polyethylene bags of 25 kg stacked up on wooden pallets having total dimensions of 1800 x 1300 x 1100 mm and total mass of 1280 kg (1250 kg net). The pallets are covered and secured with UV-stabilized stretch hood. Transport by road silo or ship containers is also possible.
DINALEN® 20 should not be exposed to direct sunlight, which can affect its properties. If stored in unfavourable climatic conditions (great temperature variations and high moisture content) moisture may condense inside the packaging.

Physiological Properties – EU Legislation

DINALEN® 20 complies with the requirements of:

- Commission Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with foodstuffs and amendments, Commission Directive 2004/1/EC, 2004/19/EC, 2005/79/EC, 2007/19/EC, and 2008/39/EC as well as Commission Regulation (EC) No 975/2009.
  Regulation (EC) No 1935/2004 of the European Parliament and of the Council on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC.
- European Parliament and Council Directive 94/62/EC on packaging and packaging waste, and amendments 2004/12/EC and 2005/20/EC.
- Directive 2002/95/EC of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment and Commission Decision 2005/618/EC amending it ("RoHS").
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Substances of very high concern (SVHC), defined in Article 57 of Regulation (EC) No 1907/2006 (REACH), have not been added intentionally for the production of above mentioned products and are not known to be present.

Active and intelligent food contact materials, dual-used additives and recycled materials have not been added intentionally for the production of the material mentioned above.

An Analytical Report on the safety of **DINALEN® 20** in food contact applications, including an expert appraisal, is available on request.

Material Safety Data Sheet is available on www.dioki.hr

Application Service

Further information is available to **DINALEN® 20** end users at: Tel: ++ 385 1 2483 670;
Fax: ++ 385 1 2404 383; E-mail: dioki@dioki.hr

Sale

All information on the sale of DIOKI's products can be obtained from DIOKI's Commercial Department, Tel: ++385 1 2483 000; Fax: ++385 1 2407 362 or ++385 1 2404 975;
E-mail: dioki@dioki.hr, DIOKI d.d., 10 000 Zagreb, Žitnjak bb, CROATIA

Note: Typical values that do not represent specification limit value