

Aklen 02 – Modified Polymeric Composition For 2-Layer Pe Coating System

AKLEN 02 – modified polymeric composition for 2 layer PE steel pipes coating system. The product is supplied in granules for application by coextrusion.

Chemical structure

Grafted copolymer based upon composition consisting of HDPE polyethylene and linear polyethylene (LLDPE) with grafted function-associated anhydride and carboxylic groups.

Applications

AKLEN 02 is recommended as an adhesive for 2 – layer extruded PE systems for water- gas-oil pipelines in accordance with EN 10288, DIN 30670, ISO 21809-4, CSA Z245.21

Operating temperature -45°C ...+90°C.

PHYSICAL CHARACTERISTICS

Measurable Value	Test method	Measuring conditions	Values
Appearance	visual		granule
Density	ISO 1183		0,936
Melt Flow Rate, gr/10 min, no less	ISO 1133	190°C, 2,16 kg	2,3-2,6
Melt Flow Rate, gr/10 min, no less	ISO 1133	160°C, 5,0 kg	4,1-4,5
Vicat softening temperature, no less	ISO 306		107
Melting point (°C)	ISO 11357-3		131
Flow point, no less than MPa			
-at a temperature plus (20±3) °C	ISO 527-2		13,3
-at a temperature minus (42±3)°C	ISO 527-2		22,5
Tensile Strength no less, (MPa)			
-at a temperature plus (20±3) °C	ISO 527-2	50mm/min	23,0
-at a temperature minus (42±3)°C	ISO 527-2	50mm/min	27,0
Tensile strain at break, no less than %			

-at a temperature plus (20±3)	ISO 527-2	50mm/min	1000
-at a temperature minus (42±3)	ISO 527-2	50mm/min	560
Peel strength for 2-layer PE coating system for pipe with diameter 159mm (N/cm), no less than	DIN 30670	(20±5) °C	230
	DIN 30670	(40±3) °C	180
	DIN 30670	(60±3) °C	120
Water absorption, (within 24 hours in water at a temperature (20±3)°C, no more %	ISO 15512		0,06/0,03
Oxidation induction time at a temperature 200±0,5°C and flowing oxygen 100 ml/min, no less than (min)	ISO 11357-6:2008		20,0/34,0

Recommended processing temperature.

Aklen 02 is applied for standard extrusion equipment. Effective temperature range for composition Aklen 02 is defined within 170°C - 210°C. Effective temperature range for steel pipes surface during PE coating operation is defined within 180°C - 220°C. In case if pipes surface temperature will exceed effective temperature up to 230°C inclusive, thus adhesion to the steel pipe will not exceed values indicated in present specification.

Packaging and Storage.

Packed in 25 kgs paper-polypropylene bags or 1000 kgs polypropylene big bags.

Store in dry and ventilated place, avoid direct UV rays and contact with water.

Shell life: 24 months.

Safety.

The adhesive is not classified to be a dangerous one.

The equipment should be grounded in case of any dust explosion caused by dust during operational procedure. Ventilation is necessary to avoid inhalation, because it irritates respiratory tract.

Certificate of Compliance UkrSepro, serial ПП №00302

Certificate of Quality Management System SIC.MS. 040 ISO 9001 d.d. 04.09.2019