



Black MDPE Irrigation Pipe Compound

- **Description**

ZARPLS™ MDB2310 is a black medium density (MD Irrigation Pipe compound. ZARPLS technology allows the manufacturing of polymers outside the traditional MFR and density range making it possible to optimize Processibility, reduce shrinkage and yet provide excellent physical toughness and environmental stress crack resistance (ESCR).

ZARPLS™ MDB2310 contains 2.5% well-dispersed carbon black in order to ensure excellent weathering resistance

- **Applications**

ZARPLS™ MDB2310 is designed for: Main and lateral irrigation pipes . The physical toughness and very low water permeability of the compound make it an ideal solution especially for on the ground or buried pipes. ZARPLS™ MDB2310 offers a balance of properties giving advantages in manufacturing, installation long lifetime performance of irrigation pipes.

- **Specifications**

ZARPLS™ MDB2310 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ASTM D 1248 Type II, Class C, Category 4, Grade E8, E9, J4
ISO 17855-PE-MD, , KCHL, 33-D-006
DIN VDE 0207, Type 2YM3
BS EN 12201
ISO 4427
ISO 8779

- **Special features**

ZARPLS™ MDB2310 consists of specially selected components to offer:

Superior Processibility
Excellent environmental stress cracking resistance (ESCR)
Excellent abrasion & scratch resistance
Low water permeability

Outstanding UV resistance
Low shrinkage
Excellent surface hardness
Low heat deformation





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- Physical Properties**

Data should not be used for specification work

Property	Typical Value	Test Method
Density (Compound)	0.94 gr/cm3	ISO 1183
Carbon Black Content	2.5 +/- 0.3 %	ASTM D1603
Carbon Black Dispersion (Photomicrographs for evaluation)	A1 , A2	ISO 18553
Carbon Black Dispersion (grading of particles , agglomerates)	Max 2.5	ISO 18553
Melt Flow rate (190°C , 2.16 kg)	0.5 - 0.7 gr/10 min	ISO 1133
Elongation at Break (250 mm/min)	500 %	IEC 60811-401
Tensile Strength (250 mm/min)	27 N/mm2	IEC 60811-401
Brittleness temperature	Max -75 °C	ASTM D 746
Pressure Test at High Temperature	< 5 %	IEC 60811-3-1
ESCR , 50°C , 10% Igepal , F0	>5000 h	ASTM D 1693
O.I.T (Oxidative Induction Time) @200°C	> 50 minutes	ASTM D3895

- Processing Techniques**

ZARPLS™ MDB2310 provides excellent surface finish and allows a broad processing window. ZARPLS™ MDB2310 is suitable for most equipment designed for PVC/PE extrusion. To minimize shrink back gradient cooling with hot water, minimum 60°C in the first part of the cooling trough, is strongly recommended.

- Extrusion**

If preheating and/or drying is used, the maximum temperature should be 90°C.

Preheating	90 °C	Maximum recommended temperature
Melt temperature	180 - 190 °C	
Cooling water	60 °C	First part of cooling trough

Extruder Zones Temperature : Z1 Z5 : 150/160/170/180/190

Cross head : 200 (could be up to 240 depending on line speed)

Die : 220 (could be up to 280 depending on line speed)

- Packaging**

Big-Bags (from 500 to 1200 kg)

Tetrabin (500 kg – 1200 kg)

Bags (25 kg ; 55 bags on one pallet)

