

**REPSOL
YPF**



**ISPLEN®
POLYPROPYLENE**

ISPLEN® PB-110 H2E BLOCK COPOLYMER

| | |
|----------------------------------|---|
| <i>APPLICATIONS</i> | <ul style="list-style-type: none"> ➤ Pipes for soil and waste discharge ➤ Corrugated pipes |
| <i>HIGHLIGHTS</i> | <ul style="list-style-type: none"> ➤ High thermal stability. ➤ Excellent chemical resistance. ➤ High low-temperature impact strength |
| MELT FLOW RATE 230°C, 2.16 Kg | 0.25 g/10 min. |

DESCRIPTION

ISPLEN® PB-110 H2E is a block ethylene-propylene copolymer with a high molecular weight. Due to averagely good flow properties and very high mechanical properties is a suitable grade to be processed into pipes. Its very high impact strength, even at low temperatures, and stress cracking also can use in critical conditions. Other applications are corrugated pipes for sewage, due to its high modulus

ADDITIVATION

ISPLEN® PB-110 H2E contains stabilizers and additives according to the end-use of the item in order to reinforce the thermal stability and increase the hot-water extraction resistance. The processor may include other additives. Formulation allows polymer stability during the normal conditions of processing and use.

COLOURING

ISPLEN grades are supplied in natural colour but it can be easily coloured with pigments steady at processing temperatures, using dry-colouring or masterbatch techniques.

FOODSTUFF REGULATIONS

ISPLEN® PB-110 H2E is approved for food contact under certain legislation. For more information about specific country regulation, please, contact with our Technical Service.

PROCESSING

ISPLEN® PB-110 H2E can be easily processed using extruders either of the single or twin-screw type, with suitable head to produce pipes. Single screw extruders should have the following characteristics:

Length/diameter ratio: 24 to 32.

Compression ratio: 3 to 4.

Screw: with torpedo and metering section with constant pitch and flight depth.

TYPICAL EXTRUSION CONDITIONS

The following temperature profile is suggested as a guide. Conditions will depend on size and wall thickness of the pipe produced and extrusion equipment used.

| 4 BARREL ZONES | CROSSHEAD 3 ZONES | MELT TEMPER. |
|--------------------------|----------------------|-----------------|
| From: 190/190/195/195 °C | 200/200/200 °C | 205 °C |
| To: 200/205/210/215 °C | 220/220/220 °C | 225 °C |

Cooling

To minimize internal stresses, it is advisable to install a system to keep such temperature to avoid a too sudden cooling and let sufficiently length or time to allow a complete homogeneity.

PHYSICAL PROPERTIES ISPLEN[®] PB-110 H2E

| PROPERTY | UNIT | TEST METHOD | TYPICAL VALUE |
|-------------------------------------|-------------------|-------------|---------------|
| A) GENERAL | | | |
| Melt Flow Index | | | |
| 230 °C, 2.16 Kg | g/10 min | ISO 1133 | 0.25 |
| 230°C, 5 Kg | g/10 min | ISO 1133 | 1.0 |
| Density | g/cm ³ | ISO 1183 | 0.903 |
| B) MECHANICAL | | | |
| Tensile Yield Stress | MPa | ISO 527 | 28 |
| Elongation at break | % | ISO 527 | >500 |
| Flexural Modulus | MPa | ISO 178 | 1400 |
| C) OTHERS | | | |
| Izod Impact Strength 23 °C, notched | KJ/m ² | ISO 180/1A | 40 |
| Izod Impact Strength -20°C, notched | KJ/m ² | ISO 180/1A | 5 |
| Rockwell Hardness (10 N) | - | ASTM D 2240 | 77 |

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This information is offered in good faith and meant only as a guide. The transformer or user will be, in each case, responsible for the processing conditions and the final use of the product. Freedom under patents, copyright and registered designs cannot be assumed.

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