

# HD8100M / HD8100MB

High Density Polyethylene Resin

## Product Description

InnoPlus HD8100M is a natural color-high density polyethylene pipe grade.

InnoPlus HD8100MB is a black compounded-high density polyethylene pipe grade which is certified as PE100.

Both are bimodal resins exhibit excellent creep resistance and chemical resistance properties. They are suitable for high quality pressure pipes, produced by conventional pipe extrusion process.

**Typical Application** : High pressure and High temperature pipes; Drinking water pipes, Industrial pipes and Sewer pipes.

## Typical Properties :

| Properties  | Typical Value |          | Unit               | Test Method |
|---|---------------|----------|--------------------|-------------|
|   | HD8100M       | HD8100MB |                    |             |
| <i><b>Physical Properties</b></i>                 |               |          |                    |             |
| Melt Flow Rate (190 °C, 5 kg)                     | 0.25          | 0.25     | g/10 min           | ISO 1133    |
| Density   | 0.952         | 0.962    | g/cm <sup>3</sup>  | ISO 1183    |
| Vicat Softening Point @ 10 N, 50 °C/hr            | 124           | 124      | °C                 | ASTM D1525  |
| Melting Point                                     | 128           | 128      | °C                 | ASTM D3418  |
| <i><b>Mechanical Properties</b></i>               |               |          |                    |             |
| Tensile Strength @ Yield                          | 25            | 24       | MPa                | ISO 527     |
| Tensile strength @ Break                          | 33            | 36       | MPa                | ISO 527     |
| Elongation @ Break                                | 750           | 780      | %                  | ISO 527     |
| Stiffness   | 7500          | 8000     | kg/cm <sup>2</sup> | ASTM D747   |
| Flexural Modulus                                  | 11000         | 11500    | kg/cm <sup>2</sup> | ASTM D790   |
| Notched Izod Impact Strength                      | 48 (NB)*      | 50 (NB)* | kg.cm/cm           | ASTM D256   |
| Durometer Hardness                                | 64            | 64       | Shore D            | ASTM D2240  |
| ESCR , F <sub>50</sub> (Condition B, 25 % Igepal) | >1000         | >2000    | hrs                | ASTM D1693  |
| <i><b>Other Properties</b></i>                    |               |          |                    |             |
| Carbon Black Content                              | -             | >2.0     | %                  | ISO 6964    |
| Oxidative Induction Time (OIT, 200 °C)            | -             | >50      | Minutes            | ISO 11357-6 |
| Classification                                    | -             | PE100    | -                  | ISO 12162   |

\* NB = Non Break

## Recommendation :

Preheat condition : 2 hours at 80 °C (For HD8100MB)

Extruder temperature : 180 - 200 °C

Die temperature : 190 - 220 °C

## FDA Statement :

HDPE under the brand InnoPlus complies with U.S. FDA 21 CFR 177.1520 regulation for polyethylene used in articles that contact food except for articles used for packaging or holding food during cooking.

**Note** : Properties reported here are typical values of the product, not to be considered as specifications.

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