



High Density Polyethylene

Technical Data Sheet (TDS)

SP4808

Pipe

Product Description:

Asrene® SP4808 is an HDPE resin which is supplied in natural pellet form and suitable for pressure pipes, water distribution pipes, subduct conduit, sewerage and industrial pipes requiring high tensile properties, excellent stress cracking resistance and long term hydrostatic strength.

Product Characteristics:

- High tensile properties
- Excellent stress cracking resistance
- Long term hydrostatic strength
- Low sagging grade
- σ_{LPL} @50 years = 10.78 MPa

Applications:

- PE-100 certified (MRS = 10 MPa)
- Pressure pipes
- Water distribution pipes (portable water certified)
- Subduct conduit, sewerage and industrial pipes

| Physical Properties | Test Method* | Unit | Value |
|---|------------------|-------------------|-----------|
| Density | ASTM D 1505 | g/cm ³ | 0.949 |
| Melt Index (190 °C/2.16 kg) | ASTM D 1238 | g/10 min | 0.06 |
| Melt Index (190 °C/5.0 kg) | ASTM D 1238 | g/10 min | 0.25 |
| Melt Index (190 °C/21.6 kg) | ASTM D 1238 | g/10 min | 9.0 |
| Brittleness Temperature | ASTM D 746 | °C | < -70 |
| ESCR [10% Igepal, F ₅₀] | ASTM D 1693 | Hrs | > 1,000 |
| Tensile Strength @Yield | ASTM D 638 | MPa | 30 |
| Tensile Strength @Break | ASTM D 638 | MPa | 50 |
| Ultimate Elongation | ASTM D 638 | % | > 700 |
| Tensile Impact Strength | ASTM D 1822 | kJ/m ² | 550 |
| Flexural Modulus | ASTM D 790 | MPa | 1,300 |
| Oxidative-Induction Time @200 °C | ASTM D 3895 | min | > 80 |
| Viscosity @0.1 sec ⁻¹ , 190 °C | Torque Rheometer | Pa.s | > 100,000 |

| Pipe Properties** | Test Method* | Unit | Value |
|---|--------------|------|---------|
| Hydrostatic Resistance @12.4 MPa, 20 °C** | ISO 1167 | Hrs | > 100 |
| Hydrostatic Resistance @12.4 MPa, 20 °C** | ISO 1167 | Hrs | > 165 |
| Hydrostatic Resistance @12.4 MPa, 20 °C** | ISO 1167 | Hrs | > 1,000 |
| Rapid Crack Propagation (S4 test @0 °C)*** | ISO 13477 | Bar | > 12 |
| Slow Crack Growth (notch test @80 °C, 9.2 bar)*** | ISO 13479 | Hrs | > 1,058 |
| Longitudinal Reversion*** | ISO 2505 1&2 | % | 0.63 |

*Polyethylene tested per ASTM D 1928

**PE-100, S-5, SDR-11, PN-16, OD-32 mm

***PE-100, S-5, SDR-11, PN-16, OD-110 mm

Conversion: 1 MPa = 10.2 kgf/cm²
1 kJ/m² = 0.01 kgf.cm/mm²

Recommended Processing Conditions:

Melt Temperature..... 180-220 °C

Product Available Form:

Natural pellet

Packaging:

25 kg in FFS PE-bag



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Safety:

- The product is not classified as a hazardous material.
- Please refer to our Safety Data Sheet (SDS) for details on various aspects of safety, recovery and disposal of the product.

Storage:

- Product(s) should be stored in dry and dust free location at temperature below 50 °C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials, food and drink, as this may lead to quality deterioration, which results in odor generation and color changes and can have negative effects on the physical properties of this product.
- Keep packaging tightly closed and sealed until ready for use. Packaging that has been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled packaging. Use appropriate containment to avoid environmental contamination.
- The storage area should be stable and not be slopped.
- Please refer to our Safety Data Sheet (SDS) for details on storage and handling of the product.

Regulatory:

- This material complies with recommendations and statutory regulations regarding packaging materials intended to come in contact with foodstuff, such as:
 - FDA Regulation 21 CFR177.1520
 - Commission Regulation EU No.10/2011
 - BPOM Regulation No.HK 03.1.23.07.11.6664 on 2011
 - Halal Certificate from Indonesian Council of Ulama
 - SNI No. 7808:2012
- Please refer to our Regulatory Data Sheet (RDS) for details on various aspects of regulatory of the product.

Product Stewardship:

PT. Chandra Asri Petrochemical, Tbk. (CAP) has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health and environmental information on our products and then take appropriate steps to protect employee, public health and environment. The success of our Product Stewardship program rests with each and every individual involved with CAP products –from the initial concept and research, to manufacture, storage, sale, use and disposal of each product.

Disclaimer:

The nominal properties reported herein are typical on the product of CAP but do not reflect normal testing variance and therefore should not to be construed as specifications.

CAP reserves the right to make any improvement or amendments to the composition of any grade or product without alteration to the product code.

This document reports accurate and reliable information to the best of our knowledge on the products manufactured by CAP. Since CAP cannot anticipate or control the conditions under which this information and its product may be used, each user should review the information in the specific context of the intended application. CAP will not be responsible for damages of any nature resulting from the use of or reliance upon the information.

This technical datasheet is effective as from **July 2016** and supersedes all data previously published.

PT. Chandra Asri Petrochemical, Tbk.

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