

High Density Polyethylene



HP10441

EVALENE[®] HP10441 is a natural PE 80 certified High Density Polyethylene grade designed specifically for various pipe applications requiring pressure-rating performance.

EVALENE[®] HP10441 provides a cost-effective solution for various piping applications including potable water, sewer, industrial, agricultural, mining, landfill, electrical and telecommunications duct applications. Pipes made using **EVALENE[®] HP10441** are flexible, have excellent fatigue, impact and abrasion resistance. They are corrosion-resistant and ensure no scale deposits nor heavy metal contamination. Pipes made using **EVALENE[®] HP10441** will retain a hoop-strength of at least 8.0 MPa even after 50 years of use*.

EVALENE[®] HP10441 is effective for above-ground**, buried, trenchless, floating and even marine installations.

* At 20°C usage condition
 ** UV stabilized; black pipe

FEATURES

- Good processability and flexibility
- Certified MRS 8.0 material (PE 80)
- Meets Philippine FDA food contact requirements
- Halal-certified

TYPICAL APPLICATIONS

- Pressure pipe applications (PE 80)
- Pipes for building & construction
- Smooth wall and corrugated pipes for electrical conduits, telecommunications, irrigation and sewage

Product Properties

Property	Test Condition	Standard	Typical Value	Unit
Flow Index	190 °C / 21.6 kg	ASTM D1238	10	g/10 min.
Density	23°C	ASTM D1505	944	kg/m ³
Tensile Strength at Yield ¹	50 mm/min	ASTM D638	21	MPa
Tensile Strength at Break ¹	50 mm/min	ASTM D638	31	MPa
Elongation at Yield ¹	50 mm/min	ASTM D638	19	%
Elongation at Break ¹	50 mm/min	ASTM D638	1570	%
Tensile Modulus ²	1% Secant, 5 mm/min	ASTM D638	1031	MPa
Flexural Modulus ³	1% Secant, 1.3mm/min	ASTM D790	857	MPa
Oxidation Induction Time	DSC, 200°C	ASTM D3895	109	min
Hardness		ASTM D2240	61	Shore D
ESCR, F ₅₀	Condition B, 10% Igepal, 50°C	ASTM D1693	>1000	hours

¹ Properties measured on Compression Molded ASTM Type IV samples.

² Properties measured on Compression Molded ASTM Type I samples.

³ Properties measured on Injection Molded ASTM Type I samples.

Typical Processing Conditions:

Extrusion temperature: 230 - 260 °C

Classification: MRS = 8 MPa (PE80)

Manufacturer: JG Summit Petrochemical Corporation

EvaleNE HP10441*
 Melt Flow Index: 10 g/10 min
 Density: 944 kg/m³
 Tested Pipe Size: 1" SDR 11 per ASTM D2513
*Actual Material Properties as Supplied by Host Manufacturer

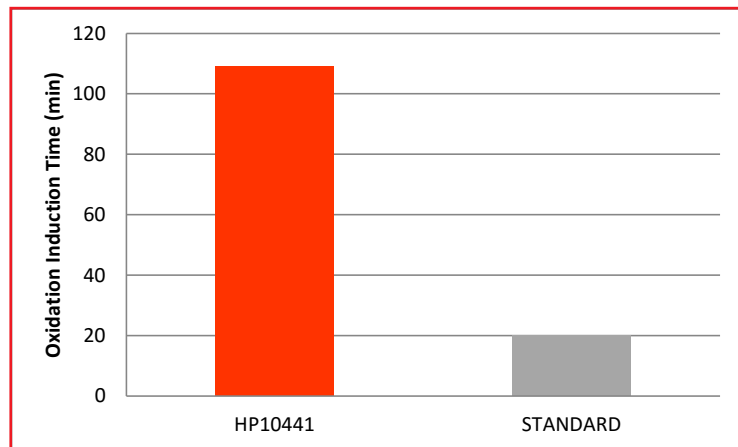
Temperature (°C)	Extrapolated strength values	
	50 Year LTHS (MPa)	50 Year LPL (MPa)
20	10.02	8.55
60	3.00	3.05
80	2.32	1.76

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J.D. Kim, Ph.D. Research Scientist
 Stephen Kozak, Patrick Vidien, M.Sc., P.Eng. Technical Manager
 2888 INDUSTRIAL PARKWAY S., AURORA, ONTARIO, CANADA L4G 3J5 Phone: 905-736-8558 Fax: 905-736-8589

EVALENE® HP10441 Oxidation Induction Time

The typically 80% higher Oxidation Induction Time of **EVALENE® HP10441** pellets provides much higher protection against the elements over the pipe's lifetime than the standard requirement. The level of protection in **EVALENE® HP10441** is at least four times the ISO 4427 requirement.



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