

## High Density Polyethylene



# HP10441

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

**EVALENE<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> HP10441** will retain a hoop-strength of at least 8.0 MPa even after 50 years of use\*.

**EVALENE<sup>®</sup> 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 <sup>3</sup>
Tensile Strength at Yield <sup>1</sup>	50 mm/min	ASTM D638	21	MPa
Tensile Strength at Break <sup>1</sup>	50 mm/min	ASTM D638	31	MPa
Elongation at Yield <sup>1</sup>	50 mm/min	ASTM D638	19	%
Elongation at Break <sup>1</sup>	50 mm/min	ASTM D638	1570	%
Tensile Modulus <sup>2</sup>	1% Secant, 5 mm/min	ASTM D638	1031	MPa
Flexural Modulus <sup>3</sup>	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 <sub>50</sub>	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	Number of observations	
	20 °C	80 °C
EvaleNE HP10441* Melt Flow Index: 10 g/10 min Density: 944 kg/m <sup>3</sup> Tested Pipe Size: 1" SDR 11 per ASTM D2513 <small>*Actual values provided as detailed in Test Method</small>	Extrapolated strength values	
	Temperature (°C)	50 Year LTHS (MPa) / 50 Year LPL (MPa)
Results Obtained The evaluation was performed in accordance with ISO 9080:2003 using the 3-parameter model	20	10.02 / 9.55
	60	3.95 / 3.25
	80	2.32 / 1.75

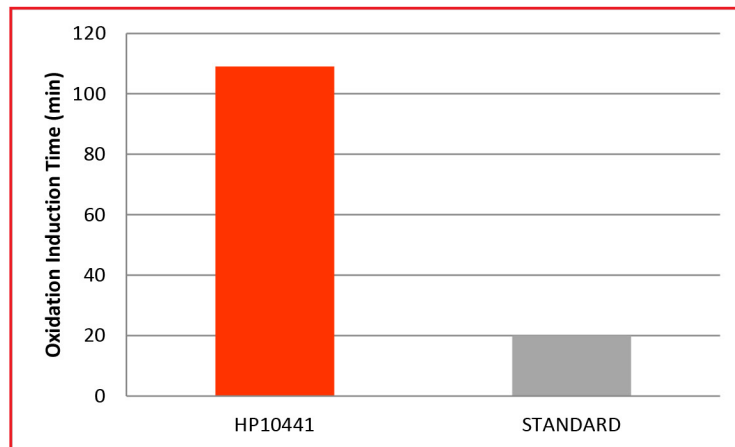
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## EVALENE® HP10441 Oxidation Induction Time

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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