

INEOS HDPE TC46-25

High Density Polyethylene

INEOS Olefins & Polymers USA

Technical Data

Product Description

TC46-25 is a natural high density polyethylene copolymer designed specifically for telecommunications ducting to meet or exceed the material requirements in conduit specifications ASTM F2160, UL 651B and NEMA TC-7. TC46-25 balances stiffness, ESCR and molecular weight to provide required toughness and crush strength without compromising processability.

General

Material Status	• Commercial: Active		
Literature ¹	• Processing - Injection Molding (English) • Technical Datasheet (English)		
UL Yellow Card ²	• E31830-100062237		
Search for UL Yellow Card	• INEOS Olefins & Polymers USA		
Availability	• North America		
Features	• Copolymer • Good Processability	• Good Stiffness • Good Toughness	• High Density • High ESCR (Stress Crack Resist.)
Uses	• Telecommunications		
Agency Ratings	• ASTM F 2160	• NEMA TC-7	• UL 651B
RoHS Compliance	• Contact Manufacturer		
Appearance	• Natural Color		
Forms	• Pellets		

Physical	Nominal Value Unit	Test Method
Density	0.948 g/cm ³	ASTM D4883
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.30 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance		
10% Igepal, F10	> 96.0 hr	ASTM D1693B
100% Igepal, F20	> 192 hr	ASTM D1693C

Mechanical	Nominal Value Unit	Test Method
Tensile Strength ⁴ (Yield)	23.4 MPa	ASTM D638
Tensile Elongation ⁴ (Break)	800 %	ASTM D638
Flexural Modulus - 2% Secant ⁵	897 MPa	ASTM D790

Hardness	Nominal Value Unit	Test Method
Durometer Hardness (Shore D)	68	ASTM D2240

Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
0.45 MPa, Unannealed	69.0 °C	
Brittleness Temperature	-118 °C	ASTM D746

Additional Information

OIT, ASTM D3895 (without copper mesh), 200°C: >20 min
Cell Classification, ASTM D3350: 335430A
Tensile Elongation at Break, ASTM D638, 2 in/min: >800%

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL IDES continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ 51 mm/min

⁵ Method I (3 point load)