

Flexathene® TP4310HR

Polyolefin

LyondellBasell Industries

Message:

FLEXATHENE TP4310HR is a thermoplastic polyolefin (TPO) formulated for compounding and injection molding applications that require medium stiffness and excellent cold temperature impact resistance. TP4310HR is produced in a proprietary gas-phase process that yields a product with greater resistance to mechanical and thermal degradation and more uniform dispersion than melt-blended rubber compounds. This product is readily reprocessable with minimal changes to processing characteristics or physical properties.

General Information			
Features	Good Stiffness		
	Low Temperature Impact Resistance		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	0.895	g/cm ³	ISO 1183/A, ASTM D1505
Melt Mass-Flow Rate (MFR)			
230°C/2.16 kg	9.5	g/10 min	ASTM D1238
230°C/2.16 kg ¹	9.5	g/10 min	ISO 1133
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	66		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1000	MPa	ISO 527-2
Tensile Strength			
Yield ²	19.3	MPa	ASTM D638
--	17.0	MPa	ISO 527-2
Tensile Elongation (Yield)	5.5	%	ASTM D638
Flexural Modulus			
1% Secant ³	689	MPa	ASTM D790B
--	700	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-30°C	43	J/m	
-18°C	110	J/m	
23°C	No Break		
Unnotched Izod Impact (-18°C)	No Break		ASTM D4812
Instrumented Dart Impact ⁴			ASTM D3763
-40°C, Energy to Peak Load	27.0	J	
23°C, Energy to Peak Load	16.0	J	
Gardner Impact (-30°C)	27.1	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method

Deflection Temperature Under Load (0.45 MPa, Unannealed)	70.0	°C	ASTM D648
Brittleness Temperature	-33.9	°C	ASTM D746
CLTE - Flow	1.2E-4	cm/cm/°C	ASTM E831
Injection	Nominal Value	Unit	
Processing (Melt) Temp	210 to 232	°C	
NOTE			
1.	Procedure A		
2.	13 mm/min		
3.	1.3 mm/min		
4.	2.20 m/sec		

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

