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Hytrel® HTR8351 NC021

THERMOPLASTIC POLYESTER ELASTOMER

Common features of Hytrel® thermoplastic polyester elastomer include mechanical and physical properties such as exceptional toughness and resilience, high resistance to creep, impact and flex fatigue, flexibility at low temperatures and good retention of properties at elevated temperatures. In addition, it resists many industrial chemicals, oils and solvents. Special grades include heat stabilised, flame retardant, food contact compliant, blow molding and extrusion grades. Concentrates offered include black pigments, UV protection additives, heat stabilisers, and flame retardants.
Hytrel® thermoplastic polyester elastomer is plasticiser free.

The good melt stability of Hytrel® thermoplastic polyester elastomer normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-24 kJ/g of base polymer) in appropriately equipped installations.
For disposal, local regulations have to be observed.

Hytrel® thermoplastic polyester elastomer typically is used in demanding applications in the automotive, fluid power, electrical/electronic, consumer goods, appliance and power tool, sporting goods, furniture, industrial and off-road transportation/equipment industry.

Hytrel® HTR8351 NC021 is a low modulus Hytrel® grade with nominal durometer hardness of 30D. It is a non-discoloring, UV stabilized, plasticizer free resin for extrusion.

Typical applications:
Wire and cable jackets.

Product information

Resin Identification	TPC-ET	ISO 1043
Part Marking Code	>TPC-ET<	ISO 11469

Rheological properties

Melt mass-flow rate	10	g/10min	ISO 1133
Melt mass-flow rate, Temperature	190	°C	
Melt mass-flow rate, Load	5	kg	
Moulding shrinkage, parallel	0.7	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	17	MPa	ISO 527-1/-2
Stress at 5% strain	1.1	MPa	ISO 527-1/-2
Stress at 10% strain	2.4	MPa	ISO 527-1/-2
Tensile stress at 50% strain, 1BA	5.3	MPa	ISO 527-1/-2
Tensile stress at break	9	MPa	ISO 527-1/-2
Tensile strain at break	210	%	ISO 527-1/-2
Charpy notched impact strength, -30°C	13	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	4	kJ/m²	ISO 179/1eA
Shore D hardness, 15s	21		ISO 48-4 / ISO 868
Tear strength, normal	54	kN/m	ISO 34-1

Thermal properties

Melting temperature, 10°C/min	160	°C	ISO 11357-1/-3
Vicat softening temperature, 50°C/h 10N	47	°C	ISO 306

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Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

Density	1150	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.08	%
Melt Temperature Optimum	190	°C
Min. melt temperature	180	°C
Max. melt temperature	200	°C
Mold Temperature Optimum	30	°C
Min. mould temperature	30	°C
Max. mould temperature	40	°C

Extrusion

Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 3	h
Processing Moisture Content	≤0.06	%
Melt Temperature Range	170 - 185	°C

Characteristics

Special characteristics	Light stabilised or stable to light, U.V. stabilised or stable to weather