Celanese
The chemistry inside innovation™

Hytrel® 5526 BK203

THERMOPLASTIC POLYESTER ELASTOMER

Hytrel® 5526 BK203 is a medium modulus Hytrel® grade with nominal durometer hardness of 55D. It is black pigmented and contains an UV stabilization package. It is specially recommended for injection molding applications requiring high flow properties.

Product information

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

Rheological properties

Melt mass-flow rate	17	g/10min	ISO 1133
Melt mass-flow rate, Temperature	220	°C	
Melt mass-flow rate, Load	2.16	kg	
Moulding shrinkage, parallel	1.6	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	210	MPa	ISO 527-1/-2
Yield stress	15	MPa	ISO 527-1/-2
Yield strain	35	%	ISO 527-1/-2
Stress at 5% strain	7.7	MPa	ISO 527-1/-2
Stress at 10% strain	11.5	MPa	ISO 527-1/-2
Stress at 50% strain	15	MPa	ISO 527-1/-2
Stress at break	35	MPa	ISO 527-1/-2
Nominal strain at break	800	%	ISO 527-1/-2
Strain at break	>300	%	ISO 527-1/-2
Flexural Modulus	220	MPa	ISO 178
Charpy impact strength, 23 °C	N	kJ/m²	ISO 179/1eU
Charpy notched impact strength, -30 °C	30	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40 °C	18	kJ/m²	ISO 179/1eA
Izod notched impact strength, -40 °C	17	kJ/m²	ISO 180/1A
Poisson's ratio	0.48		
Shore D hardness, 15s	52		ISO 48-4 / ISO 868
Shore D hardness, max	55		ISO 868
Tear strength, parallel	140	kN/m	ISO 34-1
Tear strength, normal	140	kN/m	ISO 34-1

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Thermal properties

Melting temperature, 10°C/min	202	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	-25	°C	ISO 11357-1/-3
Vicat softening temperature, 50°C/h 10N	180	°C	ISO 306

Flammability

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

Other properties

Humidity absorption, 2mm	0.2[DS]	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.6[DS]	%	Sim. to ISO 62

[DS]: Derived from similar grade

Injection

Drying Recommended	yes		
Drying Temperature	100	°C	
Drying Time, Dehumidified Dryer	2 - 3	h	
Processing Moisture Content	≤0.08	%	
Melt Temperature Optimum	230	°C	Internal
Min. melt temperature	220	°C	
Max. melt temperature	250	°C	
Mold Temperature Optimum	45	°C	
Min. mould temperature	45	°C	
Max. mould temperature	55	°C	

Chemical Media Resistance

Acids

- ✔ Acetic Acid (5% by mass), 23°C
- ✔ Citric Acid solution (10% by mass), 23°C
- ✔ Lactic Acid (10% by mass), 23°C
- ✘ Hydrochloric Acid (36% by mass), 23°C
- ✘ Nitric Acid (40% by mass), 23°C
- ✘ Sulfuric Acid (38% by mass), 23°C
- ✔ Sulfuric Acid (5% by mass), 23°C
- ✘ Chromic Acid solution (40% by mass), 23°C

Bases

- ✔ Sodium Hydroxide solution (35% by mass), 23°C
- ✔ Sodium Hydroxide solution (1% by mass), 23°C
- ✔ Ammonium Hydroxide solution (10% by mass), 23°C

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Alcohols
- ✔ Isopropyl alcohol, 23°C
- ✔ Methanol, 23°C
- ✔ Ethanol, 23°C

Hydrocarbons
- ✔ n-Hexane, 23°C
- ✔ Toluene, 23°C
- ✔ iso-Octane, 23°C

Ketones
- ✘ Acetone, 23°C

Ethers
- ✘ Diethyl ether, 23°C

Mineral oils
- ✔ SAE 10W40 multigrade motor oil, 23°C
- ✘ SAE 10W40 multigrade motor oil, 130°C
- ✘ SAE 80/90 hypoid-gear oil, 130°C
- ✔ Insulating Oil, 23°C
- ✘ Motor oil OS206 304 Ref.Eng.Oil, ISP, 135°C
- ✘ Automatic hypoid-gear oil Shell Donax TX, 135°C
- ✘ Hydraulic oil Pentosin CHF 202, 125°C

Standard Fuels
- ✘ ISO 1817 Liquid 1 - E5, 60°C
- ✘ ISO 1817 Liquid 2 - M15E4, 60°C
- ✘ ISO 1817 Liquid 3 - M3E7, 60°C
- ✘ ISO 1817 Liquid 4 - M15, 60°C
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✔ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ✘ Diesel fuel (pref. ISO 1817 Liquid F), >90°C

Salt solutions
- ✔ Sodium Chloride solution (10% by mass), 23°C
- ✘ Sodium Hypochlorite solution (10% by mass), 23°C
- ✔ Sodium Carbonate solution (20% by mass), 23°C
- ✔ Sodium Carbonate solution (2% by mass), 23°C
- ✔ Zinc Chloride solution (50% by mass), 23°C

Other
- ✔ Ethyl Acetate, 23°C
- ✘ Hydrogen peroxide, 23°C
- ✘ DOT No. 4 Brake fluid, 130°C
- ✘ Ethylene Glycol (50% by mass) in water, 108°C
- ✔ 50% Oleic acid + 50% Olive Oil, 23°C

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- ✔ Water, 23 °C
- ✔ Water, 90 °C
- ✔ Phenol solution (5% by mass), 23 °C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).