# Hytrel® 7246

TPC Celanese

## Product Texts

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® 7246 is a high modulus grade with nominal hardness of 72D. It contains non-discoloring stabilizer. It can be processed by many conventional thermoplastic processing techniques like injection molding and extrusion.**

The 72 Shore D hardness is based on a legacy method and still used for grade identification purposes.

Typical applications:
Tubing, wire and cable jackets, gears and sprockets, oil field parts.

2-Pagers

| Processing/Physical Characteristics | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Melt volume-flow rate, MVR | **12** | cm³/10min | ISO 1133 |
| Temperature | **240** | °C | - |
| Load | **2.16** | kg | - |
| [C] Molding shrinkage, parallel | **1.6** | % | ISO 294-4, 2577 |
| [C] Molding shrinkage, normal | **1.6** | % | ISO 294-4, 2577 |
| [C] Density of melt | **1110** | kg/m³ | - |
| [C] Thermal conductivity of melt | **0.15** | W/(m K) | - |
| [C] Spec. heat capacity of melt | **2150** | J/(kg K) | - |
| [C] Eff. thermal diffusivity | **8E-8** | m²/s | - |
| **ASTM Data** | | | |
| Melt Flow Index, MFI | **12.5** | g/10min | ASTM D 1238 |
| Temperature | **240** | °C | - |
| Load | **2.16** | kg | - |
| Mold Shrinkage, MD | **0.016** | mm/mm | ASTM D 955 |

[C]: CAMPUS

| Mechanical properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Tensile Modulus | **550** | MPa | ISO 527 |
| [C] Tensile creep modulus, 1h | **360** | MPa | ISO 899-1 |
| [C] Tensile creep modulus, 1000h | **310** | MPa | ISO 899-1 |
| [C] Charpy notched impact strength, +23°C | **36** | kJ/m² | ISO 179/1eA |
| [C] Charpy notched impact strength, -30°C | **8** | kJ/m² | ISO 179/1eA |
| [C] Tensile notched impact strength, +23°C | **300** | kJ/m² | ISO 8256/1 |
| [C] Stress at 10% elongation | **23** | MPa | ISO 527 |
| [C] Stress at break TPE | **50** | MPa | ISO 527 |
| [C] Strain at break TPE | **>300** | % | ISO 527 |
| [C] Abrasion resistance | **100** | mm³ | ISO 4649 |
| [C] Shore D hardness | **64** | - | ISO 7619-1 |
| **ASTM Data** | | | |
| Tensile Strength at Break | **45.8** | MPa | ASTM D 638 |
| Elongation at Break | **360** | % | ASTM D 638 |
| Flexural Modulus | **570** | MPa | ASTM D 790 |

| | | | |
|---|---|---|---|
| Shore D Hardness | **72** | - | ASTM D 2240 |
| Izod Impact notched, 1/8 in | **210** | J/m | ASTM D 256 |
| Izod Impact notched, Low-Temperature | **40** | J/m | ASTM D 256 |
| Temperature | **-40** | °C | - |

[C]: CAMPUS

| Thermal properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Melting temperature, 10°C/min | **218** | °C | ISO 11357-1/-3 |
| [C] Glass transition temperature, 10°C/min | **25** | °C | ISO 11357-1/-2 |
| [C] Temp. of deflection under load, 1.80 MPa | **50** | °C | ISO 75-1/-2 |
| [C] Temp. of deflection under load, 0.45 MPa | **100** | °C | ISO 75-1/-2 |
| [C] Vicat softening temperature, B | **140** | °C | ISO 306 |
| [C] Coeff. of linear therm. expansion, parallel | **180** | E-6/K | ISO 11359-1/-2 |
| [C] Coeff. of linear therm. expansion, normal | **170** | E-6/K | ISO 11359-1/-2 |
| [C] Burning Behav. at 1.5 mm nom. thickn. | **HB** | class | IEC 60695-11-10 |
| Thickness tested | **1.5** | mm | - |
| Yellow Card available | **yes** | - | - |
| [C] Oxygen index | **23** | % | ISO 4589-1/-2 |
| **ASTM Data** | | | |
| UL 94 Flame rating | **HB** | - | UL 94 |
| Thickness tested | **1.5** | mm | - |
| Coefficient of Thermal Expansion, MD | **171** | E-6/K | ASTM D 696 |
| Coefficient of Thermal Expansion, TD | **180** | E-6/K | ASTM D 696 |
| DTUL @ 66 psi | **130** | °C | ASTM D 648 |
| DTUL @ 264 psi | **52** | °C | ASTM D 648 |
| Melting Temperature | **218** | °C | ASTM D 3418 |

[C]: CAMPUS

| Electrical properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Relative permittivity, 100Hz | **4** | - | IEC 62631-2-1 |
| [C] Relative permittivity, 1MHz | **3.5** | - | IEC 62631-2-1 |
| [C] Dissipation factor, 100Hz | **160** | E-4 | IEC 62631-2-1 |
| [C] Dissipation factor, 1MHz | **300** | E-4 | IEC 62631-2-1 |
| [C] Volume resistivity | **2E10** | Ohm*m | IEC 62631-3-1 |
| [C] Surface resistivity | **>1E15** | Ohm | IEC 62631-3-2 |
| [C] Electric strength | **20** | kV/mm | IEC 60243-1 |
| [C] Comparative tracking index | **600** | - | IEC 60112 |
| **ASTM Data** | | | |
| Dielectric Strength, Short Time | **18.1** | kV/mm | ASTM D 149 |
| Dissipation Factor, 1 MHz | **0.03** | - | ASTM D 150 |
| Dielectric Constant, 1 MHz | **3.5** | - | ASTM D 150 |

[C]: CAMPUS

| Other properties | Value | Unit | Test Standard |
|---|---|---|---|
| [C] Water absorption | **0.6** | % | Sim. to ISO 62 |
| [C] Humidity absorption | **0.2** | % | Sim. to ISO 62 |
| [C] Density | **1260** | kg/m³ | ISO 1183 |
| Water Absorption, 24hr | **0.3** | % | ASTM D 570 |
| Density | **1250** | kg/m³ | ASTM D 792 |

[C]: CAMPUS

## Characteristics

**Processing**
Injection Molding, Film Extrusion, Pipe/Tube Extrusion, Profile Extrusion, Sheet Extrusion, Wire/Cable Extrusion, Other Extrusion, Coating, Casting, Thermoforming

**Delivery form**
Pellets

**Additives**
Release agent

**Special Characteristics**
Platable, Light stabilized or stable to light, Heat stabilized or stable to heat

**Features**
Color Stability, Creep Resistance

**Chemical Resistance**
General Chemical Resistance, Oxidation Resistance

**Certifications**
Food contact, Food approval FDA 21 CFR

**Applications**
Automotive

**Regional Availability**
North America, Europe, Asia Pacific, South and Central America, Near East/Africa