



# INSPIRE™ TF7000 ES

## Trinseo - Performance Polymers

Tuesday, November 5, 2019

### General Information

#### Product Description

INSPIRE\* TF7000 ES Natural Performance Polymer DA™ is a very high stiffness (2400 MPa) TPO designed for instrument panel upper and lower components, as well as other interior trim applications where stiffness, good impact resistance, and good molded-in-color part aesthetics are important. Its high melt flow rate also allows for rapid filling of large parts in the injection molding process.

#### Main Characteristics:

- Excellent Surface Aesthetics
- Good Scratch & Mar Resistance
- Instrument Panel Uppers/Lowers
- Interior Trim Applications
- High Flow
- Approved on DaimlerChrysler MS-DC265D

#### General

|                           |                              |                                  |                                    |
|---------------------------|------------------------------|----------------------------------|------------------------------------|
| Material Status           | • Commercial: Active         |                                  |                                    |
| Availability              | • North America              |                                  |                                    |
| Filler / Reinforcement    | • Talc, 20% Filler by Weight |                                  |                                    |
| Features                  | • Good Impact Resistance     | • High Flow                      | • Pleasing Surface Appearance      |
|                           | • Good Scratch Resistance    | • High Stiffness                 |                                    |
| Uses                      | • Automotive Applications    | • Automotive Instrument Panel    | • Automotive Interior Parts        |
| Automotive Specifications | • CHRYSLER MS-DC-265 Type D  | • GM QK 004023 U Color: Charcoal | • IMDS ID 30867190 Color: Charcoal |
| Forms                     | • Pellets                    |                                  |                                    |
| Processing Method         | • Injection Molding          |                                  |                                    |

### ASTM & ISO Properties<sup>1</sup>

| Physical  | Nominal Value | Unit                  | Test Method  |
|---|---------------|-----------------------|--------------|
| Density / Specific Gravity                        | 1.03          |                       | ASTM D792    |
| Melt Mass-Flow Rate (230°C/2.16 kg)               | 27            | g/10 min              | ASTM D1238   |
| Mechanical  | Nominal Value | Unit                  | Test Method  |
| Tensile Stress (Yield)                            | 3340          | psi                   | ISO 527-2/50 |
| Flexural Modulus <sup>2</sup>                     | 348000        | psi                   | ISO 178      |
| Impact  | Nominal Value | Unit                  | Test Method  |
| Notched Izod Impact Strength (73°F)               | 14            | ft·lb/in <sup>2</sup> | ISO 180/1A   |
| Instrumented Dart Impact <sup>3</sup>             |               |                       | ASTM D3763   |
| 32°F, Ductile                                     | 257           | in·lb                 |              |
| 73°F, Ductile                                     | 204           | in·lb                 |              |
| Hardness  | Nominal Value | Unit                  | Test Method  |
| Durometer Hardness (Shore D)                      | 70            |                       | ASTM D2240   |
| Thermal   | Nominal Value | Unit                  | Test Method  |
| Heat Deflection Temperature (66 psi, Unannealed)  | 225           | °F                    | ISO 75-2/Bf  |
| Heat Deflection Temperature (264 psi, Unannealed) | 142           | °F                    | ISO 75-2/Af  |
| Flammability                                      | Nominal Value | Unit                  | Test Method  |
| Burning Rate <sup>4</sup>                         | 1.9           | in/min                | FMVSS 302    |

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### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 0.079 in/min

<sup>3</sup> 21.7 ft/sec

<sup>4</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.