

# Hytrel® 4068FG

THERMOPLASTIC POLYESTER ELASTOMER

DuPont Performance Polymers

Message:

40 Shore D High Performance Polyester Elastomer Developed for Food Contact Applications

| General Information                         |                                                  |                        |             |
|---------------------------------------------|--------------------------------------------------|------------------------|-------------|
| Additive                                    | UV Stabilizer                                    |                        |             |
| Uses                                        | Film                                             |                        |             |
|                                             | Sheet                                            |                        |             |
| Forms                                       | Pellets                                          |                        |             |
| Processing Method                           | Casting                                          |                        |             |
|                                             | Extrusion                                        |                        |             |
|                                             | Film Extrusion                                   |                        |             |
|                                             | Injection Molding                                |                        |             |
|                                             | Sheet Extrusion                                  |                        |             |
|                                             | Thermoforming                                    |                        |             |
| Multi-Point Data                            | Isothermal Stress vs. Strain (TPE) (ISO 11403-1) |                        |             |
| Part Marking Code (ISO 11469)               | >TPC-ET<                                         |                        |             |
| Resin ID (ISO 1043)                         | TPC-ET                                           |                        |             |
| Physical                                    | Nominal Value                                    | Unit                   | Test Method |
| Density                                     | 1.11                                             | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (220°C/2.16 kg)   | 8.5                                              | g/10 min               | ISO 1133    |
| Melt Volume-Flow Rate (MVR) (220°C/2.16 kg) | 9.00                                             | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                           |                                                  |                        | ISO 294-4   |
| Across Flow                                 | 0.80                                             | %                      |             |
| Flow                                        | 0.80                                             | %                      |             |
| Water Absorption                            |                                                  |                        | ISO 62      |
| 23°C, 24 hr, 2.00 mm                        | 0.70                                             | %                      |             |
| Equilibrium, 23°C, 2.00 mm, 50% RH          | 0.30                                             | %                      |             |
| Hardness                                    | Nominal Value                                    | Unit                   | Test Method |
| Shore Hardness                              |                                                  |                        | ISO 868     |
| Shore D                                     | 37                                               |                        |             |
| Shore D, 15 sec                             | 33                                               |                        |             |
| Mechanical                                  | Nominal Value                                    | Unit                   | Test Method |
| Tensile Modulus                             | 45.0                                             | MPa                    | ISO 527-2   |
| Tensile Stress                              |                                                  |                        | ISO 527-2   |

|                                           |               |                   |             |
|-------------------------------------------|---------------|-------------------|-------------|
| Break                                     | 29.0          | MPa               |             |
| 5.0% Strain                               | 2.40          | MPa               |             |
| 10% Strain                                | 3.50          | MPa               |             |
| 50% Strain                                | 6.70          | MPa               |             |
| Tensile Strain (Break)                    | > 300         | %                 | ISO 527-2   |
| Nominal Tensile Strain at Break           | 800           | %                 | ISO 527-2   |
| Tensile Creep Modulus                     |               |                   | ISO 899-1   |
| 1 hr                                      | 28.0          | MPa               |             |
| 1000 hr                                   | 21.0          | MPa               |             |
| Flexural Modulus                          | 47.0          | MPa               | ISO 178     |
| Abrasion Resistance                       | 180           | mm <sup>3</sup>   | ISO 4649    |
| Effective Thermal Diffusivity             | 0.0544        | cSt               |             |
| Elastomers                                | Nominal Value | Unit              | Test Method |
| Tear Strength                             |               |                   | ISO 34-1    |
| Across Flow                               | 100           | kN/m              |             |
| Flow                                      | 100           | kN/m              |             |
| Impact                                    | Nominal Value | Unit              | Test Method |
| Charpy Notched Impact Strength            |               |                   | ISO 179/1eA |
| -30°C                                     | No Break      |                   |             |
| 23°C                                      | No Break      |                   |             |
| Charpy Unnotched Impact Strength          |               |                   | ISO 179/1eU |
| -30°C                                     | No Break      |                   |             |
| 23°C                                      | No Break      |                   |             |
| Notched Izod Impact Strength              |               |                   | ISO 180/1A  |
| -40°C                                     | No Break      |                   |             |
| -30°C                                     | No Break      |                   |             |
| 23°C                                      | No Break      |                   |             |
| Tensile Impact Strength (23°C)            | 145           | kJ/m <sup>2</sup> | ISO 8256/1  |
| Thermal                                   | Nominal Value | Unit              | Test Method |
| Glass Transition Temperature <sup>1</sup> | -55.0         | °C                | ISO 11357-2 |
| Melting Temperature <sup>2</sup>          | 193           | °C                | ISO 11357-3 |
| CLTE                                      |               |                   | ISO 11359-2 |
| Flow                                      | 2.3E-4        | cm/cm/°C          |             |
| Transverse                                | 2.3E-4        | cm/cm/°C          |             |
| Electrical                                | Nominal Value | Unit              | Test Method |
| Electric Strength                         | 18            | kV/mm             | IEC 60243-1 |
| Relative Permittivity                     |               |                   | IEC 60250   |
| 100 Hz                                    | 4.80          |                   |             |
| 1 MHz                                     | 4.70          |                   |             |
| Comparative Tracking Index                | 600           | V                 | IEC 60112   |
| NOTE                                      |               |                   |             |
| 1.                                        | 10°C/min      |                   |             |

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#### Recommended distributors for this material

### 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

