

# Pibiflex® 4612 NATURALE

Thermoplastic Copolyester Elastomer

SO.F.TER. SPA

## Message:

Pibiflex® 4612 NATURALE is a Thermoplastic Copolyester Elastomer (TPC-ET) material. It is available in Europe, Latin America, or North America for injection molding. Primary attribute of Pibiflex® 4612 NATURALE: REACH Compliant.

| General Information                                         |                      |                   |                         |
|-------------------------------------------------------------|----------------------|-------------------|-------------------------|
| Features                                                    | General Purpose      |                   |                         |
| Uses                                                        | General Purpose      |                   |                         |
| Agency Ratings                                              | EC 1907/2006 (REACH) |                   |                         |
| Appearance                                                  | Natural Color        |                   |                         |
| Processing Method                                           | Injection Molding    |                   |                         |
| Physical                                                    | Nominal Value        | Unit              | Test Method             |
| Specific Gravity                                            | 1.17                 | g/cm <sup>3</sup> | ASTM D792               |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)                   | 20                   | g/10 min          | ASTM D1238              |
| Water Absorption (23°C, 24 hr)                              | 0.80                 | %                 | ASTM D570               |
| Hardness                                                    | Nominal Value        | Unit              | Test Method             |
| Durometer Hardness (Shore D, 15 sec)                        | 46                   |                   | ASTM D2240              |
| Mechanical                                                  | Nominal Value        | Unit              | Test Method             |
| Tensile Strength (Break)                                    | 25.0                 | MPa               | ASTM D638               |
| Tensile Elongation (Break)                                  | 800                  | %                 | ASTM D638               |
| Flexural Modulus                                            | 125                  | MPa               | ASTM D790               |
| Taber Abrasion Resistance (1000 Cycles, 1000 g, H-18 Wheel) | 85.0                 | mg                | ASTM D1044              |
| Elastomers                                                  | Nominal Value        | Unit              | Test Method             |
| Tear Strength <sup>1</sup>                                  | 85.0                 | kN/m              | ASTM D624               |
| Impact                                                      | Nominal Value        | Unit              | Test Method             |
| Notched Izod Impact                                         |                      |                   | ASTM D256               |
| -30°C                                                       | No Break             |                   |                         |
| 23°C                                                        | No Break             |                   |                         |
| Thermal                                                     | Nominal Value        | Unit              | Test Method             |
| Deflection Temperature Under Load (0.45 MPa, Unannealed)    | 54.0                 | °C                | ASTM D648               |
| Vicat Softening Temperature                                 | 148                  | °C                | ASTM D1525 <sup>2</sup> |
| Peak Melting Temperature                                    | 194                  | °C                | ASTM D3417              |
| Electrical                                                  | Nominal Value        | Unit              | Test Method             |
| Volume Resistivity                                          |                      |                   | ASTM D257               |
| 23°C                                                        | 1.0E+13              | ohms · cm         |                         |
| 100°C                                                       | 1.0E+11              | ohms · cm         |                         |

| Dielectric Strength (2.00 mm) | 17                                 | kV/mm   | ASTM D149   |
|-------------------------------|------------------------------------|---------|-------------|
| Dielectric Constant           |                                    |         | ASTM D150   |
| 1 kHz                         | 4.25                               |         |             |
| 100 kHz                       | 4.21                               |         |             |
| Dissipation Factor            |                                    |         | ASTM D150   |
| 1 kHz                         | 6.0E-3                             |         |             |
| 100 kHz                       | 0.016                              |         |             |
| Flammability                  | Nominal Value                      | Unit    | Test Method |
| Oxygen Index                  | 20                                 | %       | ASTM D2863  |
| Additional Information        | Nominal Value                      | Unit    | Test Method |
| Fatigue Resistance            | 0.1/300                            | kCycles | ASTM D1052  |
| Injection                     | Nominal Value                      | Unit    |             |
| Drying Temperature            | 110                                | °C      |             |
| Drying Time                   | 3.0                                | hr      |             |
| Rear Temperature              | 180                                | °C      |             |
| Middle Temperature            | 210                                | °C      |             |
| Front Temperature             | 220                                | °C      |             |
| Mold Temperature              | 40.0 to 60.0                       | °C      |             |
| NOTE                          |                                    |         |             |
| 1.                            | Die C                              |         |             |
| 2.                            | Rate B (120°C/h), Loading 1 (10 N) |         |             |

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### 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



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