

# apigo® D 47T

Thermoplastic Polyolefin Elastomer

API SpA

## Message:

apigo® D 47T is a polyolefin thermoplastic elastomer (TPO (POE)) product. It can be processed by extrusion or injection molding and is available in Europe. apigo® The application areas of D 47T include consumer goods, electrical appliances, home applications, construction applications and the automotive industry.

- Features include:
- chemical resistance
  - environmental protection/green
  - Good processability
  - Rapid Prototyping Cycle
  - low temperature resistance

| General Information |                                 |                   |             |
|---------------------|---------------------------------|-------------------|-------------|
| Features            | Stress whitening                |                   |             |
|                     | Recyclable materials            |                   |             |
|                     | Workability, good               |                   |             |
|                     | Fast molding cycle              |                   |             |
|                     | Low temperature resistance      |                   |             |
|                     | Good chemical resistance        |                   |             |
|                     | alkali resistance               |                   |             |
|                     | acid resistance                 |                   |             |
|                     | Definition, high                |                   |             |
| Uses                | Electrical appliances           |                   |             |
|                     | Household goods                 |                   |             |
|                     | Architectural application field |                   |             |
|                     | Application in Automobile Field |                   |             |
|                     | Sporting goods                  |                   |             |
|                     | Toys                            |                   |             |
|                     | Footwear                        |                   |             |
| Appearance          | Available colors                |                   |             |
|                     | Clear/transparent               |                   |             |
| Forms               | Particle                        |                   |             |
| Processing Method   | Extrusion                       |                   |             |
|                     | Injection molding               |                   |             |
| Physical            | Nominal Value                   | Unit              | Test Method |
| Specific Gravity    | 0.900                           | g/cm <sup>3</sup> | ASTM D792   |

|   |               |          |             |
|---|---------------|----------|-------------|
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)                           | 40            | g/10 min | ASTM D1238  |
| Hardness  | Nominal Value | Unit     | Test Method |
| Durometer Hardness (Shore D, 3 sec)                                 | 47            |          | ASTM D2240  |
| Mechanical  | Nominal Value | Unit     | Test Method |
| Tensile Strength  |               |          | ASTM D638   |
| --  | 13.0          | MPa      | ASTM D638   |
| 100% strain   | 10.5          | MPa      | ASTM D638   |
| 300% strain   | 10.8          | MPa      | ASTM D638   |
| Tensile Elongation (Break)  | 540           | %        | ASTM D638   |
| Flexural Modulus (23°C)   | 240           | MPa      | ASTM D790   |
| Elastomers  | Nominal Value | Unit     | Test Method |
| Tear Strength <sup>1</sup>  | 82.0          | kN/m     | ASTM D624   |
| Impact  | Nominal Value | Unit     | Test Method |
| Notched Izod Impact   |               |          | ASTM D256   |
| -20°C   | 140           | J/m      | ASTM D256   |
| 23°C  | No Break      |          | ASTM D256   |
| Injection   | Nominal Value | Unit     |             |
| Rear Temperature  | 150 - 170     | °C       |             |
| Middle Temperature  | 160 - 180     | °C       |             |
| Front Temperature   | 170 - 190     | °C       |             |
| Nozzle Temperature  | 180 - 200     | °C       |             |
| Mold Temperature  | 20.0 - 60.0   | °C       |             |
| Injection Rate  | Slow-Moderate |          |             |
| Injection instructions  |               |          |             |
| Injection Pressure: HighBack Pressure: MediumLocking Pressure: High |               |          |             |
| Extrusion   | Nominal Value | Unit     |             |
| Cylinder Zone 1 Temp.   | 150 - 180     | °C       |             |
| Cylinder Zone 2 Temp.   | 160 - 190     | °C       |             |
| Cylinder Zone 3 Temp.   | 170 - 190     | °C       |             |
| Cylinder Zone 4 Temp.   | 180 - 190     | °C       |             |
| Extrusion instructions  |               |          |             |
| L/D Ratio: >20:1Compression Ratio: 1:2.5 to 1:3                     |               |          |             |
| NOTE  |               |          |             |
| 1.  | Without Notch |          |             |

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