## Hanwha Total PP TH43S

High Crystallinity Polypropylene
HANWHA TOTAL PETROCHEMICALS Co., Ltd.

## Message:

TH43S is a heat-resistant polypropylene compound product that outperforms the competition. The addition of talc as an inorganic filler to homo-polypropylene provides for enhanced strength and heat-resistance. This product has a variety of base PPs, such as HIPP (High Isotactic or High crystalline Polypropylene), and is manufactured with HANWHA TOTAL's special processing technology for high quality and customer satisfaction. This grade features superior rigidity, long-term heat resistance, anti-static property, as well as dimensional stability. Practical applications include use in electric and electronic product parts and household appliances.

| General Information                     |                                    |          |             |  |  |
|---|------------------------------------|----------|-------------|--|--|
| Filler / Reinforcement                  | Talc                               |          |             |  |  |
| Additive                                | Antistatic                         |          |             |  |  |
| Features                                | Antistatic                         |          |             |  |  |
|   | Good Dimensional Stability         |          |             |  |  |
|   | Good Processability                |          |             |  |  |
|   | High Heat Resistance               |          |             |  |  |
|   | High Rigidity                      |          |             |  |  |
|   | High Strength                      |          |             |  |  |
|   | Isophthalic                        |          |             |  |  |
|   |                                    |          |             |  |  |
| Uses                                    | Appliances                         |          |             |  |  |
|   | Electrical Parts                   |          |             |  |  |
|   | Electrical/Electronic Applications |          |             |  |  |
|   | Food Containers                    |          |             |  |  |
|   | Household Goods                    |          |             |  |  |
|   | Industrial Applications            |          |             |  |  |
|   | Outdoor Applications               |          |             |  |  |
|   |                                    |          |             |  |  |
| Forms                                   | Pellets                            |          |             |  |  |
| Processing Method                       | Injection Molding                  |          |             |  |  |
| Physical                                | Nominal Value                      | Unit     | Test Method |  |  |
| Density                                 | 1.11                               | g/cm³    | ASTM D1505  |  |  |
| Melt Mass-Flow Rate (MFR) (230°C/2.16   |                                    |          |             |  |  |
| kg)                                     | 11                                 | g/10 min | ASTM D1238  |  |  |
| Molding Shrinkage - Flow (2.00 mm)      | 0.90 to 1.3                        | %        | ASTM D955   |  |  |
| Hardness                                | Nominal Value                      | Unit     | Test Method |  |  |
| Rockwell Hardness (R-Scale)             | 101                                |          | ASTM D785   |  |  |
| Mechanical                              | Nominal Value                      | Unit     | Test Method |  |  |
| Tensile Strength <sup>1</sup> (Yield)   | 33.3                               | MPa      | ASTM D638   |  |  |
| Tensile Elongation <sup>2</sup> (Break) | 20                                 | %        | ASTM D638   |  |  |
| Flexural Modulus <sup>3</sup>           | 3330                               | MPa      | ASTM D790   |  |  |

| Impact                               | Nominal Value | Unit | Test Method |
|--------------------------------------|---------------|------|-------------|
| Notched Izod Impact (23°C)           | 47            | J/m  | ASTM D256   |
| Thermal                              | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load (0 | .45           |      |             |
| MPa, Unannealed)                     | 140           | °C   | ASTM D648   |
| Injection                            | Nominal Value | Unit |             |
| Rear Temperature                     | 180 to 200    | °C   |             |
| Middle Temperature                   | 190 to 210    | °C   |             |
| Front Temperature                    | 200 to 220    | °C   |             |
| Mold Temperature                     | 50.0 to 80.0  | °C   |             |
| Injection Pressure                   | 39.2 to 88.3  | MPa  |             |
| Holding Pressure                     | 58.8 to 98.1  | MPa  |             |
| Screw Speed                          | 30 to 80      | rpm  |             |
| NOTE                                 |               |      |             |
| 1.                                   | 50 mm/min     |      |             |
| 2.                                   | 50 mm/min     |      |             |
| 3.                                   | 5.0 mm/min    |      |             |

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