

# Stanyl® HGR2 BK00001

Polyamide 46  
DSM Engineering Plastics

Message:

Stanyl® HGR2 BK00001 is a polyamide 46 (nylon 46) material. This product is available in North America, Europe or Asia Pacific.  
Stanyl® The main features of HGR2 BK00001 are:  
heat stabilizer  
Lubrication

| General Information                             |      |                                   |                   |             |
|-------------------------------------------------|------|-----------------------------------|-------------------|-------------|
| Additive                                        |      | PTFE lubricant<br>heat stabilizer |                   |             |
| Features                                        |      | Thermal Stability<br>Lubrication  |                   |             |
| Physical                                        | Dry  | Conditioned                       | Unit              | Test Method |
| Density                                         | 1.26 | --                                | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                               |      |                                   |                   | ISO 294-4   |
| Transverse flow                                 | 2.0  | --                                | %                 | ISO 294-4   |
| Flow                                            | 2.0  | --                                | %                 | ISO 294-4   |
| Water Absorption<br>(Equilibrium, 23°C, 50% RH) | 3.2  | --                                | %                 | ISO 62      |
| Mechanical                                      | Dry  | Conditioned                       | Unit              | Test Method |
| Tensile Modulus                                 |      |                                   |                   | ISO 527-2   |
| --                                              | 3100 | 900                               | MPa               | ISO 527-2   |
| 120°C                                           | 775  | --                                | MPa               | ISO 527-2   |
| 160°C                                           | 650  | --                                | MPa               | ISO 527-2   |
| 180°C                                           | 600  | --                                | MPa               | ISO 527-2   |
| 200°C                                           | 560  | --                                | MPa               | ISO 527-2   |
| Tensile Stress                                  |      |                                   |                   | ISO 527-2   |
| Yield, 120°C                                    | 45.0 | --                                | MPa               | ISO 527-2   |
| Yield, 160°C                                    | 40.0 | --                                | MPa               | ISO 527-2   |
| Yield, 180°C                                    | 35.0 | --                                | MPa               | ISO 527-2   |
| Yield, 200°C                                    | 300  | --                                | MPa               | ISO 527-2   |
| Fracture                                        | 90.0 | 60.0                              | MPa               | ISO 527-2   |
| Tensile Strain (Break)                          | 20   | > 50                              | %                 | ISO 527-2   |
| Nominal Tensile Strain at Break                 |      |                                   |                   | ISO 527-2   |
| 120°C                                           | > 50 | --                                | %                 | ISO 527-2   |
| 160°C                                           | > 50 | --                                | %                 | ISO 527-2   |
| 180°C                                           | > 50 | --                                | %                 | ISO 527-2   |

|                                         |               |             |                   |             |
|-----------------------------------------|---------------|-------------|-------------------|-------------|
| 200°C                                   | > 50          | --          | %                 | ISO 527-2   |
| Flexural Modulus                        | 2600          | --          | MPa               | ISO 178     |
| Impact                                  | Dry           | Conditioned | Unit              | Test Method |
| Charpy Notched Impact Strength (23°C)   | 9.0           | --          | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength (23°C) | No Break      | --          |                   | ISO 179/1eU |
| Notched Izod Impact (23°C)              | 8.5           | --          | kJ/m <sup>2</sup> | ISO 180/1A  |
| Thermal                                 | Dry           | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature             |               |             |                   |             |
| 0.45 MPa, not annealed                  | 290           | --          | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                   | 190           | --          | °C                | ISO 75-2/A  |
| Melting Temperature <sup>1</sup>        | 295           | --          | °C                | ISO 11357-3 |
| Linear thermal expansion coefficient    |               |             |                   | ISO 11359-2 |
| Flow                                    | 8.5E-5        | --          | cm/cm/°C          | ISO 11359-2 |
| Lateral                                 | 1.1E-4        | --          | cm/cm/°C          | ISO 11359-2 |
| Thermal Index - 5000 hrs                | 152           | --          | °C                | IEC 60216   |
| Injection                               | Dry           | Unit        |                   |             |
| Drying Temperature - Desiccant Dryer    | 80 - 110      |             | °C                |             |
| Rear Temperature                        | 290 - 315     |             | °C                |             |
| Middle Temperature                      | 295 - 315     |             | °C                |             |
| Front Temperature                       | 300 - 315     |             | °C                |             |
| Nozzle Temperature                      | 295 - 315     |             | °C                |             |
| Processing (Melt) Temp                  | 300 - 315     |             | °C                |             |
| Mold Temperature                        | 80 - 120      |             | °C                |             |
| Injection Rate                          | Slow-Moderate |             |                   |             |
| Back Pressure                           | 1.00 - 5.00   |             | MPa               |             |
| Screw Compression Ratio                 | 2.5:1.0       |             |                   |             |
| NOTE                                    |               |             |                   |             |
| 1.                                      | 10°C/min      |             |                   |             |

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