# DOW™ HDPE DGDC-2100 NT 7
## High Density Polyethylene Resin

### Overview

- High Density Polyethylene (HDPE)
- Complies with:
  - U.S. FDA 21 CFR 177.1520 (c) 3.2a
  - Canadian HPFB No Objection
  - EU, No 10/2011
  - Consult the regulations for complete details.

DOW DGDC-2100 NT 7 High Density Polyethylene Resin is a high-molecular weight, high-density film grade resin. This product was specifically designed to offer an optimal balance of physical properties and processability. DGDC-2100 NT7 HDPE resin is ideally suited for use in making grocery sacks, consumer and institutional liners, and merchandise bags.

### Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

| Physical | Nominal Value | (English) | Nominal Value | (SI) | Test Method |
|---|---|---|---|---|---|
| Density | 0.948 | g/cm³ | 0.948 | g/cm³ | ASTM D792 |
| Base Density | 0.948 | g/cm³ | 0.948 | g/cm³ | Dow Method [1] |
| Melt Index | | | | | ASTM D1238 |
| 190°C/2.16 kg | 0.070 | g/10 min | 0.070 | g/10 min | |
| 190°C/21.6 kg | 9.0 | g/10 min | 9.0 | g/10 min | |
| **Films** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Film Thickness - Tested | 0.50 | mil | 13 | µm | |
| Film Puncture Energy (0.50 mil (13 µm)) | 7.90 | in·lb | 0.893 | J | Dow Method |
| Film Puncture Force (0.50 mil (13 µm)) | 6.70 | lbf | 29.8 | N | Dow Method |
| Film Puncture Resistance (0.50 mil (13 µm)) | 128 | ft·lb/in³ | 10.6 | J/cm³ | Dow Method |
| Secant Modulus | | | | | ASTM D882 |
| 2% Secant, MD: 0.50 mil (13 µm) | 140000 | psi | 966 | MPa | |
| 2% Secant, TD: 0.50 mil (13 µm) | 159000 | psi | 1100 | MPa | |
| Tensile Strength | | | | | ASTM D882 |
| MD: Yield, 0.50 mil (13 µm) | 6140 | psi | 42.4 | MPa | |
| TD: Yield, 0.50 mil (13 µm) | 4610 | psi | 31.8 | MPa | |
| MD: Break, 0.50 mil (13 µm) | 13600 | psi | 93.4 | MPa | |
| TD: Break, 0.50 mil (13 µm) | 9990 | psi | 68.8 | MPa | |
| Tensile Elongation | | | | | ASTM D882 |
| MD: Break, 0.50 mil (13 µm) | 330 | % | 330 | % | |
| TD: Break, 0.50 mil (13 µm) | 410 | % | 410 | % | |
| Dart Drop Impact (0.50 mil (13 µm)) | 350 | g | 350 | g | ASTM D1709A |
| Elmendorf Tear Strength | | | | | ASTM D1922 |
| MD: 0.50 mil (13 µm) | 11 | g | 11 | g | |
| TD: 0.50 mil (13 µm) | 73 | g | 73 | g | |
| **Thermal** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Melting Temperature (DSC) | 262 | °F | 128 | °C | Dow Method |
| **Optical** | **Nominal Value** | **(English)** | **Nominal Value** | **(SI)** | **Test Method** |
| Gloss (45°, 0.500 mil (12.7 µm)) | 9 | | 9 | | ASTM D2457 |
| Haze (0.500 mil (12.7 µm)) | 69 | % | 69 | % | ASTM D1003 |



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**Extrusion Notes**

Fabrication Conditions For Blown Film:

- Screw Size: 1.97 in. (50mm); 24:1 L/D
- Melt Temperature: 410 °F (210 °C)
- Output: 8 lb/hr/in. of die circumference
- Die Diameter: 3.94 in. (100mm)
- Blow-Up Ratio: 4:1
- Neck Height: 32 in. (813 mm)

## Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.



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| | | | |
|---|---|---|---|
| **North America** | | **Europe/Middle East** | +800-3694-6367 |
| U.S. & Canada: | 1-800-441-4369 | | +31-11567-2626 |
| | 1-989-832-1426 | Italy: | +800-783-825 |
| Mexico: | +1-800-441-4369 | | |
| **Latin America** | | **South Africa** | +800-99-5078 |
| Argentina: | +54-11-4319-0100 | | |
| Brazil: | +55-11-5188-9000 | | |
| Colombia: | +57-1-219-6000 | **Asia Pacific** | +800-7776-7776 |
| Mexico: | +52-55-5201-4700 | | +603-7965-5392 |

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