



# DOW™ HDPE DMDA-8920 HEALTH+™ High Density Polyethylene Resin

## Overview

DOW HDPE DMDA-8920 HEALTH+™ Resin is a narrow molecular weight distribution high density copolymer designed to offer an excellent balance of toughness, environmental stress cracking resistance, and processability. The resin is suitable for injection-molded medical devices such as IV kit components and respiratory care. This product can also be used in pharmaceutical packaging including caps and closures.

### Main Characteristics:

- Excellent toughness
- Excellent stress crack resistance
- Good processability
- High gloss parts

### Complies with:

- U.S. FDA 21CFR 177.1520(c)3.1a
- USP XXIII Class VI
- EU, No 10/2011
- Canadian HPFB - No Objection
- Drug Master File Listing

Consult the regulations for complete details.

## Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.954 g/cm <sup>3</sup>	0.954 g/cm <sup>3</sup>	ASTM D792
Base Density <sup>1</sup>	0.954 g/cm <sup>3</sup>	0.954 g/cm <sup>3</sup>	Dow Method
Melt Index (190°C/2.16 kg)	20 g/10 min	20 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693
122°F (50°C), 100% Igepal, F50	3.00 hr	3.00 hr	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield	4100 psi	28.3 MPa	
Break	2000 psi	13.8 MPa	
Tensile Elongation			ASTM D638
Yield	7.0 %	7.0 %	
Break	250 %	250 %	
Flexural Modulus - 2% Secant	167000 psi	1150 MPa	ASTM D790B
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Impact Strength <sup>2</sup>	20.0 ft-lb/in <sup>2</sup>	42.0 kJ/m <sup>2</sup>	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	57	57	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	163 °F	72.8 °C	
Brittleness Temperature	< -105 °F	< -76.1 °C	ASTM D746
Vicat Softening Temperature	261 °F	127 °C	ASTM D1525
Melting Temperature (DSC)	266 °F	130 °C	Dow Method
Peak Crystallization Temperature (DSC)	243 °F	117 °C	Dow Method

## Additional Information

Plaque molded and tested in accordance with ASTM D4976.

**Notes**

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

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<sup>1</sup> 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/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

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<sup>2</sup> Type S

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<b>North America</b>		<b>Europe/Middle East</b>	+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		
<b>Latin America</b>		<b>South Africa</b>	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	<b>Asia Pacific</b>	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

[www.dowplastics.com](http://www.dowplastics.com)

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