



DOW MEDICAL GRADE PLASTIC PORTFOLIO

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Dow Chemical has one of the broadest polyolefin product portfolios for use in the medical, healthcare, and pharmaceutical markets. Products include polyolefin plastomers, polyolefin elastomers, olefinic block copolymers, LDPE, LLDPE, HDPE, and bimodal HDPE. Polyolefin plastomers and elastomers bring clarity, gloss and flexibility. Olefinic block copolymers bring flexibility and toughness with improved abrasion resistance. LDPE products bring flexibility, chemical resistance and high purity while LLDPE adds excellent puncture and tear resistance and consistent film seal performance. HDPE brings high strength and stiffness and environmental stress crack resistance.

These products come with USP Class VI, ISO 10993 and/or USP 661.1 regulatory compliance and come with a 6-month or 12-month notification of change. These resins can be processed by most of the common processing methods including injection molding, blown film, cast film, extrusion coating, profile extrusion, blow molding, injection blow molding, compression molding, compression blow forming, and blow-fill-seal.

Because of the range of polyethylene types available, a wide range of properties and performance are available from soft and flexible, to rigid and hard and everything in between. The Dow Health+ polymers are designed to meet the most stringent requirements of medical and healthcare applications.



TYPICAL APPLICATIONS

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STANDARD MEDICAL GRADES

PRODUCT GRADE	POLYMER TYPE	DENSITY (g/cm ³)	MELT INDEX (g/10 min)	MELTING POINT (°C)	TENSILE STRENGTH at YIELD (psi)	FLEXURAL MODULUS, 2% SECANT (psi)	BIO-COMPATIBILITY	PROCESSING METHODS*	TYPICAL APPLICATIONS
The following products use the NOC Policy for Dow-determined Medical Resins, and require 6-month notification of change									
Affinity PL 1850G	POP	0.902	3.0	98	1,440 (MD) 790 (TD)	15,700 (MD) 16,600 (TD)	USP Class VI, ISO 10993-4 - Hemolysis, ISO 10993-5 - Cytotoxicity	PE, BF, CF	Tubing, Film
Affinity EG 8100G	POP	0.870	1.0	55	---	---	USP Class VI	BF, CF	Film
Affinity PL 1880G	POP	0.902	1.0	99	1,050 (MD) 1,000 (TD)	13,300 (MD) 13,400 (TD)	ISO 10993-10 - Irritation/Sensitization	BF, CF	Film
Attane 4203	ULDPE	0.905	0.8	123	900 (MD) 850 (TD)	13,000 (MD) 13,600 (TD)	USP Class VI	BF, CF	Film
Dowlex 2035	LLDPE	0.919	6.0	124	1,610 (MD) 1,510 (TD)	---	USP Class VI	CF, EC	Film
Dowlex 2517	LLDPE	0.917	25.0	124	1,400	34,000	USP Class VI	IM	Molded Parts
Elvax 3182-2	EVA	0.950	3.0	72	---	---	USP Class VI	BF, CF	Film
Engage 8003	POE	0.885	1.0	77	---	4,730	USP Class VI	BF, CF	Film
Engage 8100	POE	0.870	1.0	60	---	1,900	USP Class VI	BF, CF	Film
Engage 8150	POE	0.868	0.5	55	---	2,090	USP Class VI	BF, CF	Film
Engage 8400	POE	0.870	30.0	60	---	1,750	USP Class VI	IM	Molded Parts
Engage 8401	POE	0.885	30.0	80	---	4,440	USP Class VI	IM	Molded Parts
Engage 8402	POE	0.902	30.0	96	---	10,400	USP Class VI	IM, PE	Molded Parts, Tubing

* For Processing Methods: PE=Profile Extrusion, BF=Blown Film, CF=Cast Film, EC=Extrusion Coating, IM=Injection Molding, BM=Blow Molding, CBF=Compression Blow Forming, BFS=Blow-Fill-Seal, IBM=Injection Blow Molding, CM=Compression Molding

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The following products use the NOC Policy for Dow-determined Medical Resins, and require 6-month notification of change									
Engage 8407	POE	0.870	30.0	60	---	1,750	USP Class VI	IM	Molded Parts
Engage 8411	POE	0.880	18.0	76	---	2,970	USP Class VI	IM	Molded Parts
Engage 8440G	POE	0.897	1.6	93	---	7,880	USP Class VI, ISO 10995-5 - Cytotoxicity, ISO 10993 - 10 - Irritation/Sensitization	BF, CF, IM, PE	Film, Molded Parts, Tubing
Engage 8450	POE	0.902	3.0	97	---	11,000	USP Class VI, ISO 10995-5 - Cytotoxicity	BF, CF, IM, PE	Film, Molded Parts, Tubing
Engage 8540	POE	0.909	1.0	104	---	15,600	USP Class VI	BF, CF, IM	Film, Molded Parts, Tubing
Infuse 9000	OBC	0.877	0.5	120	---	---	USP Class VI	BF, CF	Film, Molded Parts, Tubing
Infuse 9107	OBC	0.886	1.0	121	---	---	USP Class VI	BF, CF	Film
HDPE 08454N	HDPE	0.954	7.0	124	3,000	97,000	USP Class VI	EC, IM	Film
HDPE 12450N	HDPE	0.950	12.0	129	3,400	117,000	USP Class VI	IM	Film, Molded Parts
HDPE 25455N	HDPE	0.955	25.0	129	3,700	136,000	USP Class VI	IM	Molded Parts, Testing & Diagnostics
LDPE 955i	LDPE	0.923	35.0	112	1,400	43,000	USP Class VI	IM	Molded Parts
Unival DMDA-6230 NT 7	HDPE	0.949	0.3	130	3,400	130,000	USP Class VI	BM, BF	Molded Parts, Film
Unival DMDD-6320 NT 7	HDPE	0.949	0.3	130	3,44	130,000	USP Class VI, ISO 10995-5 - Cytotoxicity	BM, BF	Molded Parts, Film

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The following products use the NOC Policy for Dow Health+ Polymers and require 1-year notification of change									
Continuum DMDD-6620 Health+	Bimodal HDPE	0.958	0.28	133	3,600	170,000	USP Class VI, USP <661.1>	BM, CBF, BF	Rigid Bottle, Film
Continuum DMDE-6620 Health+	Bimodal HDPE	0.958	0.28	133	3,600	170,000	USP Class VI, USP <661.1>	BM, CBF, BF	Rigid Bottle, Film
Dow 20 Health+	Ultra-Pure LDPE	0.920	1.9	108	---	---	USP <661.1>	BM, BF, CF, BFS, IM	Ampoules/Vials, Molded Parts, Film
Dow 20-6064 Health+	Ultra-Pure LDPE	0.920	1.9	109	---	---	USP <661.1>	IBM	Flexible Bottles
DMDA-8007 Health+	HDPE	0.965	8.3	133	4,500	205,000	USP Class VI, USP <661.1>	IM, CM	Caps & Closures, Molded Parts
DMDA-8904 Health+	HDPE	0.953	4.4	131	3,900	160,000	USP Class VI, USP <661.1>	IM, CM	Caps & Closures, Molded Parts
DMDA-8907 Health+	HDPE	0.952	6.8	131	3,900	155,000	USP Class VI, USP <661.1>	IM, CM	Caps & Closures, Molded Parts
DMDA-8920 Health+	HDPE	0.954	20.0	130	4,100	167,000	USP Class VI, USP <661.1>	IM	Caps & Closures, Molded Parts
DMDA-8940 Health+	HDPE	0.951	44.0	128	3,900	148,000	USP Class VI, USP <661.1>	IM	Caps & Closures, Molded Parts
LDPE 91003 Health+	LDPE	0.927	0.2	114	---	---	USP Class VI, USP <661.1>	BFS	Ampoules/Vials, Flexible Bottles
LDPE 91020 Health+	LDPE	0.923	2.0	---	---	---	USP Class VI, USP <661.1>	BF, CF, BFS, IM	Ampoules/Vials, Molded Parts, Film
LDPE 690 Health+	LDPE	0.920	2.0	112	1,790 (MD) 1,760 (TD)	26,200 (MD) 30,000 (TD)	USP Class VI, USP <661.1>	BF, CF, BFS, IM	Ampoules/Vials, Molded Parts, Film
LDPE 692 Health+	LDPE	0.922	0.75	112	1,830 (MD) 1,660 (TD)	---	USP Class VI, USP <661.1>	BF, CF, BFS, IM	Ampoules/Vials, Molded Parts, Film

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