# EVALENE® HDPE HF09522

## High Density Polyethylene

### JG Summit Petrochemical Corporation

#### Message:

HDPE is used to make large drums, bleach bottles, shopping bags, crates nets and pails. Tough. Rigid. Heavy Duty. With High Chemical Resistance. These qualities make Evalene® HDPE suitable for a diverse line of industrial products. Blown Film: Shopping and grocery bags Pipes: Pressure and non-pressure pipes Blow Molding: Bottles for household and industrial chemicals, large drums Injection Molding: Pallets, crates, cases, trays, toys, houseware, caps

Features       Good Chemical Resistance         Good Toughness         High Molecular Weight         High Rigidity         High Stiffness         High Tensile Strength         Sat Water/Spray Resistant         Uses       Bags         Film         Agency Ratings       FDA 21 CFR 177.1520         Forms       Polets         Processing Method       Blown Film         Physical       Nominal Value       Unit         Density       0.660       g/cm <sup>2</sup> 190°C/2.16 kg <sup>1</sup> 0.660       g/10 min         Film       190°C/2.16 kg <sup>1</sup> 0.660         190°C/2.16 kg <sup>1</sup> 0.660       g/10 min         Film       gradement       Stat Mateodement         190°C/2.16 kg <sup>1</sup> 0.660       g/10 min         Film       Stat Mateodement       Stat Mateodement         190°C/2.16 kg <sup>1</sup> 0.660       g/10 min         Film       Stat Mateodement       Stat Mateodement         190°C/2.16 kg <sup>1</sup> 0.660       g/10 min         Film       Nominal Value       Unit       Test Method         Film       Nominal Value       Mateodement       Stat Mateodement <t< th=""><th>General Information</th><th></th><th></th><th></th></t<>	General Information			
High Molecular Weight High Rigidity High Stiffness High Tensile Strength Salt Water/Spray ResistantHigh Tensile Strength Salt Water/Spray ResistantUsesBags FilmFOA 21 CFR 177.1520Agency RatingsFDA 21 CFR 177.1520FormsPolletsProcessing MethodBlown FilmPhysicalOloninal ValueUnitDensity0.920.00gradJost CFR 177.1520Satt Mater/SprayPhysicalNominal ValueUnitDensity0.920.00gradJost CFR 177.1520Satt Mater/SprayPhysical0.600gradInterviewSatt Mater/SprayJost CFR 177.1520Jost Mater MateriaPhysical0.600gradInterviewJost MateriaInterview9.0gradInterviewJost MateriaInterviewJost MateriaInterviewJost MateriaFilmNominal ValueInterviewJost MateriaInterviewJost Materia	Features	Good Chemical Resistance		
High Rigidity High Stiffness High Stiffness High Tensile Strength Satt Water/Spray ResistantUsesBags FilmVersonFDA 21 CFR 177.1520FormsPola 21 CFR 177.1520FormsPola 21 CFR 177.1520FormsPola 21 CFR 177.1520Processing MethodBiown FilmPhysicalNominal ValueDensity0.90Jon 20, 21 CFR 177.1520PhysicalNominal ValueDensity0.600Jon 20, 21 CFR 177.1520Into 20, 21 CFR 177.1520Physical0.000Jon 20, 21 CFR 177.1520Jon 20, 21 CFR 177.1520 <t< td=""><td rowspan="2"></td><td>Good Toughness</td><td></td><td></td></t<>		Good Toughness		
High Stiffness High Tensile Strength StitWater/Spray ResistantUseBajs FilmAgency RatingsFDA 21 CFR 177.1520FormsPolletsProcessing MethodBown FilmProcessing MethodBown FilmPhysicalNominal ValueDensity0.952190°C2.16 kg <sup>1</sup> 0.660190°C2.16 kg <sup>1</sup> 1.60190°C2.16 kg <sup>1</sup> 0.660190°C2.16 kg <sup>1</sup> 0.610190°C2.16 kg <sup>1</sup> 0.610190°C2.16 kg <sup>1</sup> 0.610190°C2.16 kg <sup>1</sup> 0.610190°C2.16 kg <sup>1</sup> 0.610190°C3.16 kg <sup>1</sup> <td< td=""><td>High Molecular Weight</td><td></td><td></td></td<>		High Molecular Weight		
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Jatt Water/Spray Resistant         Uses       Bags         Film         Agency Ratings       FDA 21 CFR 177.1520         Forms       Polets         Processing Method       Boom Film         Projecal       Nominal Value       Vill         Density       Nominal Value       Internet Method         Port2.16 kg <sup>-1</sup> 0.060       gr01min         190°C 2.16 kg <sup>-1</sup> 0.060       gr01min         Film       0.060       gr01min         190°C 2.16 kg <sup>-1</sup> 0.060       gr01min         Film       0.060       gr01min         190°C 2.16 kg <sup>-1</sup> 0.060       gr01min         Film       Nominal Value       Unit       Test Method         190°C 2.16 kg <sup>-1</sup> 0.50       gr01min       Test Method         190°C 2.16 kg <sup>-1</sup> 0.10       Test Method       Test Method         190°C 2.16 kg <sup>-1</sup> 150       Main       Main         191°C 2.5 µm       150       MPa       StM D82         191°C 2.5 µm       250       MPa       Main         191°C 2.5 µm       260       MPa       Test Method         191°C 2.5 µm       260       MPa       Test Main		High Stiffness		
Uses       Bags Film         Agency Ratings       FDA 21 CFR 177.1520         Forms       FDA 21 CFR 177.1520         Forms       FDA 21 CFR 177.1520         Forms       Pellets         Processing Method       Biown Film         Physical       Nominal Value       Vilt         Density       0.952       glong         190°C/2.16 kg <sup>1</sup> 0.606       gl/10 min         190°C/2.16 kg <sup>1</sup> 0.606       gl/10 min         Films       Nominal Value       Unit Mass-Filow Rate (MFR)         Films       Nominal Value       Glong         190°C/2.16 kg <sup>1</sup> 0.606       gl/10 min         Films       Nominal Value       Unit       Test Method         190°C/2.16 kg <sup>1</sup> 0.506       gl/10 min       Scatt Method         Films       Nominal Value       Unit       Test Method         Films       Nominal Value       Mana       ASTM D882         Motilds <sup>2</sup> 1150       MPa       Scatt Method         Test Strength <sup>3</sup> Stof Mass       Stof Mass       Stof Mass         MD: Yeld,25 µm       25.0       MPa       Stof Mass         MD: Yeld,25 µm       25.0       MPa       Stof Ma		High Tensile Strength		
Film         Agenç Ratings       FDA 21 CFR 177.1520         Forms       Pellets         Processing Method       Bown Film         Physical       Nominal Value       Int         Posty       0.952       gr.m <sup>3</sup> Posty       0.952       gr.m <sup>3</sup> Internet Series Method       0.060       gr.m <sup>3</sup> 190°C/216 kg <sup>1</sup> 0.060       gr.10 min         190°C/216 kg <sup>1</sup> 0.060       gr.10 min         Films       Nominal Value       Join 1         Films       Nominal Value       gr.10 min         Films       Nominal Value       gr.10 min         Films       Nominal Value       Join 2         Scant Modulus <sup>2</sup> 150       MPa         To: 25 µm       150       MPa         To: 25 µm       150       MPa         MD: Yield,25 µm       250       MPa         To: Yield,25 µm       260       MPa         To: Yield,25 µm       470       MPa		Salt Water/Spray Resistant		
Film         Agenç Ratings       FDA 21 CFR 177.1520         Forms       Pellets         Processing Method       Bown Film         Physical       Nominal Value       Int         Posty       0.952       gr.m <sup>3</sup> Posty       0.952       gr.m <sup>3</sup> Internet Series Method       0.060       gr.m <sup>3</sup> 190°C/216 kg <sup>1</sup> 0.060       gr.10 min         190°C/216 kg <sup>1</sup> 0.060       gr.10 min         Films       Nominal Value       Join 1         Films       Nominal Value       gr.10 min         Films       Nominal Value       gr.10 min         Films       Nominal Value       Join 2         Scant Modulus <sup>2</sup> 150       MPa         To: 25 µm       150       MPa         To: 25 µm       150       MPa         MD: Yield,25 µm       250       MPa         To: Yield,25 µm       260       MPa         To: Yield,25 µm       470       MPa				
Agency Ratings       FDA 21 CFR 177.1520         Forms       Pellets         Processing Method       Blown Film         Physical       Nominal Value       Unit       Test Method         Density       0.952       g/cm³       ASTM D1505         Meth Mass-Flow Rate (MFR)	Uses			
FormsPelletsProcessing MethodBlown FilmPhysicalNominal ValueUnitTest MethodDensity0.952g/cm³ASTM D1505Melt Mass-Flow Rate (MFR)		Film		
Processing MethodBlown FilmPhysicalNominal ValueUnitTest MethodDensity0.952g/cm³ASTM D1505Melt Mass-Flow Rate (MFR).ASTM D1238190°C/2.16 kg 10.060g/10 min190°C/2.16 kg 29.0g/10 minFilmsNominal ValueUnitTest MethodFilmsNominal ValueUnitTest MethodFilmsSoft Modulus 2ymStort Modulus 2MD: 25 µm1150MPaStort Mose2To: 25 µm1450MPaStort Mose2MD: Yield,25 µm25.0MPaStort Mose2MD: Yield,25 µm24.0MPaStort MethodMD: Yield,25 µm47.0MPaStort Method	Agency Ratings	FDA 21 CFR 177.1520		
PhysicalNominal ValueUnitTest MethodDensity0.952g/cm³ASTM D1505Met Mass-Flow Rate (MFR).ASTM D1238190°C/2.16 kg 10.060g/10 min190°C/2.16 kg 29.0g/10 minFlimsNominal ValueUnitTest MethodFlimsNominal ValueUnitTest MethodFilm Thickness - Tested25µm.Secart Modulus 21150MPa.TD : 25 µm1450MPa.To: 25 µm25.0MPa.MD : Yield,25 µm25.0MPa.MD : Yield,25 µm4.0MPa.MD : Break, 25 µm47.0MPa.	Forms	Pellets		
Density         0.952         g/cm³         ASTM D1505           Melt Mass-Flow Rate (MFR)         ASTM D1238           190°C/2.16 kg <sup>1</sup> 0.060         g/10 min           190°C/2.16 kg         9.0         g/10 min           Flms         Nominal Value         Unit           FlmS         Nominal Value         Umit           Flm Thickness - Tested         25         μm           Secart Modulus <sup>2</sup> 1150         MPa           TD: 25 μm         1450         MPa           Tensile Strength <sup>3</sup> 25.0         MPa           TD: Yield,25 μm         25.0         MPa           TD: Yield,25 μm         24.0         MPa           MD: Break, 25 μm         47.0         MPa	Processing Method	Blown Film		
Melt Mass-Flow Rate (MFR)ASTM D1238190°C/2.16 kg 10.060g/10 min190°C/21.6 kg9.0g/10 minFilmsNominal ValueUnitTest MethodFilm Thickness - Tested25μmSecart Modulus 2150MPaTD: 25 μm1450MPaTensile Strength 325.0MPaMD: Yield,25 μm25.0MPaTD: Yield,25 μm24.0MPaMPaLetterstrengthMD: Break, 25 μm47.0MPa	Physical	Nominal Value	Unit	Test Method
190°C/2.16 kg <sup>1</sup> 0.060         g/10 min           190°C/21.6 kg         9.0         g/10 min           Films         Nominal Value         Unit         Test Method           Film Thickness - Tested         25         µm         ASTM D882           Secart Modulus <sup>2</sup> 1150         MPa         Constant Modulus <sup>2</sup> MD : 25 μm         1450         MPa         ASTM D882           Tensile Strength <sup>3</sup> 25.0         MPa         ASTM D882           MD : Yield,25 μm         25.0         MPa         ASTM D882           MD : Yield,25 μm         24.0         MPa         Constant Modulus           MD : Break, 25 μm         47.0         MPa         Constant Modulus	Density	0.952	g/cm³	ASTM D1505
190°C/21.6 kg9.0g/10 minFilmsNominal ValueUnitTest MethodFilm Thickness - Tested25μmSecant Modulus 2Secant Modulus 21150MPaSecant MPaTD: 25 μm1450MPaSecant MPaTensile Strength 325.0MPaSecant MPaMD: Yield,25 μm24.0MPaSecant MPaMD: Break, 25 μm47.0MPaSecant MPa	Melt Mass-Flow Rate (MFR)			ASTM D1238
FilmsNominal ValueUnitTest MethodFilm Thickness - Tested25μmASTM D882Secant Modulus 2-ASTM D882MD: 25 μm1150MPa-TD: 25 μm1450MPa-Tensile Strength 3-ASTM D882MD: Yield,25 μm25.0MPa-TD: Yield,25 μm24.0MPa-MD: Break, 25 μm47.0MPa-	190°C/2.16 kg <sup>1</sup>	0.060	g/10 min	
Film Thickness - Tested       25       μm         Secant Modulus <sup>2</sup> ASTM D882         MD : 25 μm       1150       MPa         TD : 25 μm       1450       MPa         Tensile Strength <sup>3</sup> S       ASTM D882         MD : Yield,25 μm       25.0       MPa         TD : Yield,25 μm       24.0       MPa         MD : Break, 25 μm       47.0       MPa	190°C/21.6 kg	9.0	g/10 min	
Secart Modulus 2ASTM D882MD : 25 μm1150MPaTD : 25 μm1450MPaTensile Strength 3ASTM D882MD : Yield,25 μm25.0MPaTD : Yield,25 μm24.0MPaMD : Break, 25 μm47.0MPa	Films	Nominal Value	Unit	Test Method
MD: 25 μm       1150       MPa         TD: 25 μm       1450       MPa         Tensile Strength <sup>3</sup> T       ASTM D882         MD: Yield,25 μm       25.0       MPa         TD: Yield,25 μm       24.0       MPa         MD: Break, 25 μm       47.0       MPa	Film Thickness - Tested	25	μm	
TD: 25 μm       1450       MPa         Tensile Strength <sup>3</sup> ASTM D882         MD: Yield,25 μm       25.0       MPa         TD: Yield,25 μm       24.0       MPa         MD: Break, 25 μm       47.0       MPa	Secant Modulus <sup>2</sup>			ASTM D882
Tensile Strength <sup>3</sup> ASTM D882           MD : Yield,25 μm         25.0         MPa           TD : Yield,25 μm         24.0         MPa           MD : Break, 25 μm         47.0         MPa	MD : 25 μm	1150	MPa	
MD: Yield,25 μm     25.0     MPa       TD: Yield,25 μm     24.0     MPa       MD: Break, 25 μm     47.0     MPa	TD : 25 μm	1450	MPa	
TD : Yield,25 μm     24.0     MPa       MD : Break, 25 μm     47.0     MPa	Tensile Strength <sup>3</sup>			ASTM D882
MD : Break, 25 μm 47.0 MPa	MD : Yield,25 μm	25.0	MPa	
	TD : Yield,25 μm	24.0	MPa	
TD : Break, 25 μm 42.0 MPa	MD : Break, 25 µm	47.0	MPa	

Tensile Elongation <sup>4</sup>					
Tensile Elongation			ASTM D882		
MD : Break, 25 µm	> 500	%			
TD : Break, 25 µm	> 500	%			
Dart Drop Impact (25 µm)	160	g	ASTM D1709A		
Elmendorf Tear Strength			ASTM D1922		
MD : 25 µm	10	g			
TD : 25 μm	65	g			
NOTE					
	Product is controlled by Flow				
	Index. melt Index is estimated for				
1.	customer use.				
2.	25 mm/min				
3.	500 mm/min				
4.	500 mm/min				

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