# SNOLEN® EB 1.5/56

## High Density Polyethylene

### JSC Gazprom neftekhim Salavat

#### Message:

CHARACTERISTIC PROPERTIES High bending strength. Good environmental stress cracking resistance. Good impact strength. MAJOR APPLICATIONS Small blow-molded bottles, food containers (up to 5I). Medicines packing. Surfactants packing.

Features   Good Impact Resistance     High Density     High ESCR (Stress Crack Resist)     Uses   Botles     Food Containers     Packaging     Forors   Pelles     Processing Method   Retrusion Blow Molding     Physical   Nominal Value   Unit     Densly (23°C)   092 to 956   g/Cm <sup>-1</sup> 1907(23°L)   910 to 250   g/Cm <sup>-1</sup> 1907(216 kg   090 to 1.5   150 133     1907(216 kg   090 to 1.5   150 137     1907(25 kg   090 to 1.5   150 137     1907(25 kg   090 to 1.5   150 16770     1907(25 kg/Kopa)   900 to 1.5   150 16770     1907(25 kg/Kopa)   900 to 1.5   150 16770     1907(25 kg/Kopa)   900 to 1.5   150 16770     Methodentationers   160 to 2.0   160 tentard     High Density   160 to 2.0   160 tentard     Methodentationers	General Information			
Hgh SCR (stess Crack Resist)     Hgh SCR (stess Crack Resist)       Uses     Batts Food Containers Packaging       Forms     Pelte       Forms     Pelte       Processing Method     Pelte       Density Gathod     SeatonBow Moding       Physical     Moninal Value     Init       Density Gathod     952 to 0.956     gram"     So 1183       Meth Mass-Flow Rate (MFR)     Init     So 1183       I 190°C 21.6 kg     0.90 to 1.5     graf"     So 1370       I 190°C 24.6 kg     0.90 to 1.5     graf"     So 1670       I 190°C 24.6 kg     0.00 to 1.5     Initial Method     So 1670       I 190°C 24.6 kg Andropal     6.01 Ca 2.0     Initial Method     So 1670       Ker Mera Kitters - Schöne Rollstessifters     Go 10.0     Initial Method     So 1670       Mari Flow Ratio     6.01 Ca 2.0     Initial Method     So 1670     So 1670       Mari Maria Male     Main Male     Main Male     Initial Method     So 27.2/1       Maria Male     So 20.1     Initial Method     Initial Method     So 27.2/1	Features	Good Impact Resistance		
LesBottes Food Containers PackagingFormsPeletsProcessing MethodExtrusion Blow MoldingPhysicalNominal ValueUnitPostgy (23°C)0.905.00g/cm³Density (23°C)0.905.00g/cm³19for 21.6 kg19 to 27.0019for 21.6 kg9.00g/10 min19for 22.0y/10 minFurionental Stress-Cracking Resisten f (20°C, 2% Arkopal)9.00hr19for 20.0y/10 min19for 20.0s/10 minFurdinental Stress-Cracking Resistence f (20°C, 2% Arkopal)9.00hr19for 20.0y/10 minFurdinental Stress-Cracking Resistence f (20°C, 2% Arkopal)9.00hr19for 20.0y/10 minFurdinental Stress-Cracking Resistence f (20°C, 2% Arkopal)9.00hr19for 20.0y/10 minFurdinental Stress-Cracking Resistence 		High Density		
For Containers PaciagiaFormPelesProcesing MethodRetsProcesing MethodNormal MadeoPhysicalNormal NationDensity (23°C)0.95 to 0.956 and 0.970 an		High ESCR (Stress Crack Resist.)		
For Containers PaciagiaFormPelesProcesing MethodRetsProcesing MethodNormal MadeoPhysicalNormal NationDensity (23°C)0.95 to 0.956 and 0.970 an				
Packaging       Forms     Pellets       Processing Method     Extrusion Blow Molding       Physical     Nominal Value     Unit     Test Method       Density (23°C)     0.952 to 0.956 on     g/cm³     Iso 1183       Meth Mass-Flow Rate (MFR)     Iso 1913     Iso 1133       10°C/21 6 kg     19 to 27     g/l 10 min     Iso 1133       10°C/21 6 kg     0.90 to 1.5     g/l 10 min     Iso 1133       10°C/21 6 kg     0.90 to 1.5     g/l 10 min     Iso 1133       10°C/21 6 kg     0.90 to 1.5     g/l 10 min     Iso 16770       10°C/21 6 kg     0.90 to 1.5     g/l 10 min     Iso 16770       Method     16.0 to 22.0     km     Iso 16770       Method     16.0 to 22.0     Km     Iso 808       Method     10.0 to 22.0     Km     Iso 807.0       Method     Nominal Value     Nominal Value     Nominal Value     Nominal Value       Methodulus - Secant (23°C)     1250     Method     Sto 27-270       Yeld     20.0     MPa     Sto 27-2750       Parai	Uses	Bottles		
FormsPelesProcessing MethodExtrusion Blow MoldingPhysicalNominal ValueUnitTest MethodDensity (23°C)0952 to .0.956g/cn <sup>2</sup> SO 1183Meth Mass-Flow Rate (MFR)g/10 minSO 113319°C/21.6 kg0.90 to 1.5g/10 min19°C/25.0 kg0.90 to 1.5g/10 min19°C/25.0 kg0.90 to 1.5g/10 minMeth How Ratio16.0 to 22.0SO 16770Meth Flow Ratio16.0 to 22.0SO 16770Mether95 to 130%aInternal MethodNew Ratio6.0 to 22.0SO 16770Mether0.0 minal ValueMinal MethodMethod5.0 to 20.0SO 16770Mether10.0 to 20.0SO 16770Method10.0 to 20.0SO 272/10Method10.0 to 20.0SO 272/10Method10.0 to 20.0SO 5272/10Method20.0 to 20.0SO 272/20Method10.0 to 20.0SO 272/20Method20.0 to 20.0SO 272/20Method10.0 to 20.0SO 272/20Method10.0 to 20.0SO 272/20Method20.0 to 20.0SO 272/20Method20.0 to 20.0SO 272/20Method20.0 to 20.0SO 272/20Method20.0 to 20.0SO 272/20Met		Food Containers		
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Processing MethodExtrusion Blow MoldingPhysicalNominal ValueUnitTest MethodDensity (23°C)So to .056 (co.g/cm³Iso 1183Melt Mass-Flow Rate (MFR)Iso 120g/10 minIso 11331 90°C/21.6 kg19 to 27g/10 minIso 11331 90°C/20.6 kg09 to 1.5g/10 minIso 16701 (80°C, 2% Arkopal)9.00hrIso 16701 (80°C, 2% Arkopal)9.00hrIso 16701 (80°C, 2% Arkopal)9.00NortIso 1670Meth Flow Ratio16.0 to 22.0Iso 1670Iso 1670Neweling95 to 130%Istenal MethodNorte Bardness (Shore D)62Iso 868Iso 868MechanicalNominal ValueUnitTest MethodTensile StressIso 620MPaIso 527-2/10Yield26.0MPaIso 527-2/10Tensile StressIso 620MPaIso 527-2/10Yield20.0MPaIso 527-2/10Tensile StreisIso 620MPaIso 527-2/10Yield10%Iso 527-2/10Yield10%Iso 527-2/10Yield10%Iso 527-2/10Yield10%Iso 527-2/10Method%Iso 527-2/10Yield10%Iso 527-2/10Method%Iso 527-2/10Method%Iso 527-2/10Method%Iso 527-2/10Method%Iso 527-2/10<				
PhysicalNominal ValueUnitTest MethodDensity (23°C)0.952 to 0.956g/cm³ISO 1183Melt Mass-Flow Rate (MFR)ISO 12ISO 1133190°C/21.6 kg0.90 to 1.5g/10 min190°C/21.6 kg0.90 to 1.5g/10 min190°C/25.0 kg0.90 to 1.5g/10 minEnvironmental Stress-Cracking Resistance 1(80°C, 2% Arkopal)9.00hrSwelling0.00%Internal MethodHardnessNominal ValueUnitTest MethodSwelling62ISO 868ISO 868MechanicalNominal ValueUnitTest MethodMechanicalNominal ValueUnitTest MethodTensile Stress1250MPaISO 527-2/1Yield26.0MPaISO 527-2/10Tensile Strein32.0MPaISO 527-2/50Yield10%ISO 527-2/50Yield10%ISO 527-2/50Ingensel StrainSo 600%ISO 527-2/50Ingensel Strain	Forms	Pellets		
Density (23°C)0,952 to 0.956g/cm³ISO 1183Melt Mass-Flow Rate (MFR)ISO 17ISO 113319°C/21.6 kg19 to 27g/10 min19°C/21.6 kg0.90 to 1.5g/10 min19°C/5.0 kg0.90 to 1.5g/10 minEnvironmental Stress-Cracking Resistance (80°C, 2% Arkopal)9.00hrSwelling9.00hrISO 16770Melt Flow Ratio16.0 to 22.0Internal MethodSwelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62ISO 868ISO 527-2/1MechanicalNominal ValueUnitTest MethodTensile Stress1250MPaISO 527-2/1Yield26.0MPaISO 527-2/50Yield10%ISO 527-2/50Yield10%ISO 527-2/50Yield10%ISO 527-2/50Image: StrainSo 600%Image: StrainImage: StrainSo 600%	Processing Method	Extrusion Blow Molding		
Melt Mass-Flow Rate (MFR)ISO 1133190°C/21.6 kg19 to 27g/10 min190°C/21.6 kg0.90 to 1.5g/10 min190°C/5.0 kg0.90 to 1.5g/10 minEnvironmental Stress-Cracking Resistance 1 (80°C, 2% Arkopal)9.00hrSwelling16.0 to 22.0internal MethodSwelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62ISO 868MechanicalNominal ValueUnitTest MethodTensile Kota1250MPaISO 527-2/1Yield26.0MPaISO 527-2/50Yield10%ISO 527-2/50Yield10%ISO 527-2/50Yield600%Iso 180 227-2/50ImpactNominal ValueWinitTest MethodImpactNominal ValueWaIso 527-2/50Yield10%Iso 527-2/50ImpactNominal ValueWaIso 527-2/50ImpactNominal ValueWaIso 527-2/50Yield10%Iso 527-2/50ImpactNominal ValueWaIso 527-2/50ImpactNominal ValueWaIso 527-2/50ImpactNominal ValueWaIso 527-2/50Impact10%Iso 527-2/50ImpactNominal ValueUnitTest Method	Physical	Nominal Value	Unit	Test Method
190°C/21.6 kg19 to 27g/10 min190°C/20.6 kg0.90 to 1.5g/10 minInorronmental Stress-Cracking Resistance3.00hrIso 16770Melt Flow Ratio16.0 to 22.0Menal MethodInternal MethodSwelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62Iso 3686MechanicalNominal ValueUnitTest MethodTensile Modulus - Secant (23°C)1250MPaIso 527-2/10Yield26.0MPaSo 527-2/10Yield32.0MPaSo 527-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10Yield10%Sco 227-2/10ImpactNominal ValueWintTest Method	Density (23°C)	0.952 to 0.956	g/cm³	ISO 1183
190°C/5.0 kg0.90 to 1.59/0 minEnvironmental Stress-Cracking Resistance (80°C, 2% Arkopal)9.00hrISO 16770Melt Flow Ratio16.0 to 22.0YInternal MethodSwelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62ISO 868MechanicalNominal ValueUnitTest MethodTensile Modulus - Secant (23°C)1250MPaISO 527-2/1Yield26.0MPaSo 527-2/50Iso strain32.0MPaISO 527-2/50Yield10%YYield10%YIso strain>600%YImpactNominal ValueUnitTest Method	Melt Mass-Flow Rate (MFR)			ISO 1133
Environmental Stress-Cracking Resistance (80°C, 2% Arkopal)   9.00   hr   ISO 16770     Melt Flow Ratio   16.0 to 22.0   internal Method     Swelling   95 to 130   %   Internal Method     Hardness   Nominal Value   Unit   Test Method     Shore Hardness (Shore D)   62   ISO 868   ISO 868     Mechanical   Nominal Value   Unit   Test Method     Tensile Modulus - Secant (23°C)   1250   MPa   ISO 527-2/1     Yield   26.0   MPa   So 527-2/1     Tensile Stress   ISO 527-2/1   ISO 527-2/1     Yield   26.0   MPa   So 527-2/50     Yield   32.0   MPa   ISO 527-2/50     Yield   10   %   ISO 527-2/50     Break   >600   %   ISO 527-2/50     Impact   Nominal Value   Unit   Test Method	190°C/21.6 kg	19 to 27	g/10 min	
1 (80°C, 2% Arkopa)9.00hrISO 16770Melt Flow Ratio16.0 to 22.0Mernal MethodInternal MethodSwelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62ISO 868MechanicalNominal ValueUnitTest MethodTensile Modulus - Secant (23°C)1250MPaISO 527-2/1Yield26.0MPaISO 527-2/50Yield32.0MPaISO 527-2/50Yield10%ISO 527-2/50Yield10%ISO 527-2/50Yield10%ISO 527-2/50ImpactNominal ValueUnitTest MethodMondulus - Second%ISO 527-2/50Method10%ISO 527-2/50Yield10%ISO 527-2/50Method10%ISO 527-2/50Method10%ISO 527-2/50Method10%ISO 527-2/50Method10%ISO 527-2/50Method10%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method%ISO 527-2/50Method<	190°C/5.0 kg	0.90 to 1.5	g/10 min	
Melt Flow Ratio16.0 to 22.0Swelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62	Environmental Stress-Cracking Resistance			
Swelling95 to 130%Internal MethodHardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62ISO 868MechanicalNominal ValueUnitTest MethodTensile Modulus - Secant (23°C)1250MPaISO 527-2/1Yield26.0MPaISO 527-2/50Prensile Stress32.0MPaISO 527-2/50Yield10%ISO 527-2/50Yield0MPaISO 527-2/50Yield600%ISO 527-2/50Internal Strain-ISO 527-2/50YieldNominal ValueMPaInternal Strain-ISO 527-2/50YieldNominal ValueMPaInternal Strain-ISO 527-2/50YieldNominal ValueMPaInternal Strain-ISO 527-2/50YieldNominal ValueMeaInternal Strain-ISO 527-2/50YieldNominal ValueMeaInternal Strain-ISO 527-2/50Internal StrainInternal Strain-ISO 527-2/50			hr	ISO 16770
HardnessNominal ValueUnitTest MethodShore Hardness (Shore D)62ISO 868MechanicalNominal ValueUnitTest MethodTensile Modulus - Secant (23°C)1250MPaISO 527-2/10Tensile StressSo 527-2/50ISO 527-2/50Yield26.0MPaSo 527-2/50Break32.0MPaISO 527-2/50Yield10%So 527-2/50Yield10%So 527-2/50Break> 600%So 527-2/50ImpactNominal ValueUnitTest Method				
Nominal Value     Iso 868       Mechanical     Nominal Value     Unit     Test Method       Tensile Modulus - Secant (23°C)     1250     MPa     Iso 527-2/1       Yield     26.0     MPa     Iso 527-2/50       Yield     26.0     MPa     Iso 527-2/50       Break     32.0     MPa     Iso 527-2/50       Yield     10     MPa     Iso 527-2/50       Yield     32.0     MPa     Iso 527-2/50       Fensile Strain     Iso 527-2/50     Iso 527-2/50       Yield     0     MPa     Iso 527-2/50       Break     600     %     Iso 527-2/50       Impact     Nominal Value     Wintal Webholit     Test Method	Swelling	95 to 130	%	Internal Method
MechanicalNominal ValueUnitTest MethodTensile Modulus - Secant (23°C)1250MPaISO 527-2/1Tensile Stress-ISO 527-2/50Yield26.0MPa-Break32.0MPa-Tensile Strain-ISO 527-2/50Yield10%-Break> 600%-ImpactNominal ValueUnitTest Method	Hardness	Nominal Value	Unit	Test Method
Tensile Modulus - Secant (23°C)   1250   MPa   ISO 527-2/1     Tensile Stress   ISO 527-2/50     Yield   26.0   MPa     Break   32.0   MPa     Tensile Strain   ISO 527-2/50     Yield   10   %     Break   > 600   %     Impact   Nominal Value   Unit   Test Method	Shore Hardness (Shore D)	62		ISO 868
Tensile Stress     ISO 527-2/50       Yield     26.0     MPa       Break     32.0     MPa       Tensile Strain     ISO 527-2/50       Yield     10     %       Break     > 600     %       Impact     Nominal Value     Unit     Test Method	Mechanical	Nominal Value	Unit	Test Method
Yield   26.0   MPa     Break   32.0   MPa     Tensile Strain   ISO 527-2/50     Yield   10   %     Break   > 600   %     Impact   Nominal Value   Unit   Test Method	Tensile Modulus - Secant (23°C)	1250	MPa	ISO 527-2/1
Break     32.0     MPa       Tensile Strain     ISO 527-2/50       Yield     10     %       Break     > 600     %       Impact     Nominal Value     Unit     Test Method	Tensile Stress			ISO 527-2/50
Tensile Strain     ISO 527-2/50       Yield     10     %       Break     > 600     %       Impact     Nominal Value     Unit     Test Method	Yield	26.0	MPa	
Yield     10     %       Break     > 600     %       Impact     Nominal Value     Unit     Test Method	Break	32.0	MPa	
Break > 600 %   Impact Nominal Value Unit Test Method	Tensile Strain			ISO 527-2/50
Impact Nominal Value Unit Test Method	Yield	10	%	
	Break	> 600	%	
Charpy Unnotched Impact Strength (23°C) 10 kJ/m <sup>2</sup> ISO 179	Impact	Nominal Value	Unit	Test Method
	Charpy Unnotched Impact Strength (23°C)	10	kJ/m²	ISO 179

Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -80.0	°C	ASTM D746
Vicat Softening Temperature	77.0	°C	ISO 306/B50
Extrusion	Nominal Value	Unit	
Melt Temperature	180 to 220	°C	
NOTE			
1.	@ 3.5 MPa		

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