# YUNTIANHUA® M120

### Acetal (POM) Copolymer

YunNan YunTianHua Co., Ltd.

#### Message:

YUNTIANHUA® M120 is an Acetal (POM) Copolymer product. It can be processed by injection molding and is available in Asia Pacific, Europe, or North America. Applications of YUNTIANHUA® M120 include engineering/industrial parts and automotive. Characteristics include: Flame Rated Chemical Resistant Bacteria Resistant Copolymer Fatigue Resistant

General Information	
UL YellowCard	E242659-298905
Features	Acid Resistant
	Bacteria Resistant
	Base Resistant
	Copolymer
	Fatigue Resistant
	Good Abrasion Resistance
	Good Chemical Resistance
	Good Dimensional Stability
	Good Electrical Properties
	Good Flow
	High Hardness
	High Stiffness
	Low Friction
	Low Warpage
	Solvent Resistant
Uses	Automotive Electronics
	Automotive Exterior Parts
	Automotive Under the Hood
	Fittings
	Gears
	Pump Parts
	Thin-walled Parts
	Valves/Valve Parts
	Wheels
Forms	Pellets

Density141g/cm³ISO 1183Melt Mass-Flow Rate (MFR) (190°C/2.16 (g)13SO 1133Water Absorption (23°C, 24 hr)0.60%ISO 62MechanicalNominal ValueUnitTest MethodTensile Absorption (23°C, 24 hr)2650MPaISO 527-2Tensile Krasi (Mield)6.20MPaISO 527-2Tensile Strasi (Mieda)30%ISO 527-2Tensile Strasi (Mieda)2500MPaISO 178Tensile Strasi (Mieda)88.0MPaISO 178Tensile Strasi (Mieda)55MPaISO 179/16ATensile Strasi (Strasi)55.0M/n²ISO 179/16AThermalNominal ValueUnitTest MethodMethod55.0CaISO 75-2/AThermalNominal ValueISO 179/16AHeat Deflection Temperature (1.8 MPa) Joannealed)55.0ISO 76Plane RatingM9UnitTest MethodInjectionNominal ValueUnitISO 179/16APring Time80.0 to 90.0"CISO 179/16AInjectionNominal ValueUnitISO 179/16APhyling Time80.0 to 90.0"CISO 179/16ANominal ValueUnitISO 179/16APhyling Time10.0 to 100"CISO 179/16ANording Temperature10.0 to 100"CISO 179/16ANording Temperature10.0 to 100"CISO 179/16ANording Temperature10.0 to 100"CISO 179/16A <tr< th=""><th>Processing Method</th><th>Injection Molding</th><th></th><th></th></tr<>	Processing Method	Injection Molding		
Math Mass-Flow Rate (MFR) (190*C/2.16 kg)     13     g/10 min     ISO 1133       Water Absorption (23*C, 24 hr)     0.60     %     ISO 62       Mechanical     Nominal Value     Unit     Test Method       Tensile Modulus     2650     MPa     ISO 527-2       Tensile Strain (Break)     30     %     ISO 527-2       Tensile Strain (Break)     30     %     ISO 527-2       Flexural Modulus     2500     MPa     ISO 527-2       Flexural Modulus     2500     MPa     ISO 527-2       Flexural Modulus     2500     MPa     ISO 178       Impact     Nominal Value     Unit     Test Method       Charpy Notched Impact Strength     5.5     K//m²     ISO 75-2/A       Test Method     Iso 75-2/A     ISO 75-2/A     ISO 75-2/A       Hammability     Nominal Value     Ul 94     Ul 94       Injection     Nominal Value     Ul 94     ISO 75-2/A       Promeparture (1.8 MPa,     So 0 to 100     C     ISO 175-2/A       Reamability     Nominal Value     Unit     ISO 19	Physical	Nominal Value	Unit	Test Method
kg)13g/10 min150 1133Water Absorption (3°C, 24 hr)6.0%5.0 62MechanicalNominal ValueNaTest MethodTensile Modulus6.0MPa5.0 527-2Tensile Stress (Yield)3.0%6.0 527-2Tensile Stress (Yield)3.0MPa5.0 527-2Tensile Stress (Yield)2.0MPa5.0 127-2Tensile Stress (Yield)3.0MPa5.0 127-2Tensile Stress (Yield)S.0MPa5.0 127-2Tensile Stress (Yield)S.0MPa5.0 127-2Tensile Stress (Yield)Nominal ValueMPa5.0 127-2Tensile Stress (Yield)S.5MPa5.0 127-2Tensile Stress (Yield)MPaMPa5.0 127-2 <t< td=""><td>Density</td><td>1.41</td><td>g/cm³</td><td>ISO 1183</td></t<>	Density	1.41	g/cm³	ISO 1183
Water Absorption (23°C, 24 hr)     0.60     %     ISO 62       Mechanical     Nominal Value     Unit     Test Method       Tensile Modulus     2650     MPa     ISO 527-2       Tensile Stress (Vield)     62.0     MPa     ISO 527-2       Tensile Stress (Vield)     30     %     ISO 527-2       Tensile Strain (Break)     30     MPa     ISO 178       Tensile Strain (Break)     30.0     MPa     ISO 178       Flexural Modulus     2500     MPa     ISO 178       Impact     Nominal Value     Unit     Test Method       Charpy Notched Impact Strength     5.5     K/m <sup>2</sup> ISO 179/16A       Thermal     Nominal Value     Test Method     ISO 179/16A       Heat Deflection Temperature (1.8 MPa, Unannealed)     95.0     'C     ISO 175-2/A       Fleamability     Nominal Value     Test Method     Use 1       Injection     Nominal Value     Use 1     Use 1       Test Method     'C     ISO 179.0     'C       Torying Temperature     80.0 to 90.0     'C	Melt Mass-Flow Rate (MFR) (190°C/2.16			
Mechanical MechanicalNominal ValueUnitTest MethodTensile Modulus2650MPa150 527-2Tensile Stress (Yield)62.0MPa150 527-2Tensile Strain (Break)30%150 527-2Tensile Strain (Break)2500MPa150 178Elexural Modulus2500MPa150 178Elexural Stress88.0MPa150 178ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength5.5k/m²150 179/1eAThermalNominal ValueUnitTest MethodHat Deflection Temperature (1.8 MPa, Unannealed)95.0"CISO 75-2/AFlarmabilityNominal ValueUnitTest MethodHarma StringHBUnitUl 94InjectionNominal ValueUnitUl 94Drying Temperature80.0 to 90.0"C"LNord Strength3.0 to 4.0"C"LNord Temperature190 to 180"C"LMiddle Temperature190 to 210"C"LNozaze Temperature180 to 210"C"LNozaze Temperature60.0 to 90.0"C"LMidd Temperature60.0 to 90.0"C"LModif Temperature60.0 to 90.0"C"LMidd Temperature50.0 to 100MPa"LHolding Pressure50.0 to 100MPa"LHolding Pressure50.0 to 0.000MPa"LHolding Pressure <t< td=""><td>kg)</td><td>13</td><td>g/10 min</td><td>ISO 1133</td></t<>	kg)	13	g/10 min	ISO 1133
Tensile Modulus2650MPaISO 527-2Tensile Stress (Yield)62.0MPaISO 527-2Tensile Strain (Break)30%ISO 527-2Tensile Strain (Break)2500MPaISO 178Elexural Modulus68.0MPaISO 178ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength5.5k/m²ISO 179/1eAThermalNominal ValueUnitTest MethodHeat Deflection Temperature (1.8 MPa, Unannealed)95.0°CISO 75-2/AFlammabilityNominal ValueUnitTest MethodHarmadon ManageMominal ValueUnitISO 75-2/AFlammabilityNominal ValueUnitStresserInjectionNominal ValueUnitStresserDrying Temperature80.0 to 90.0°CStresserDrying Time3.0 to 4.0NrStresserMiddel Temperature190 to 210°CStresserNozzie Temperature180 to 710°CStresserModulus190 to 210°CStresserModul Temperature180 to 90.0°CStresserModulus190 to 100°CStresserModulus190 to 100°CStresserModulus190 to 100MPaStresserModulus100 to 90.0°CStresserModulus100 to 90.0°CStresserModulus100 to 90.0MPaStresserModulus10	Water Absorption (23°C, 24 hr)	0.60	%	ISO 62
Tensile Stress (Yield)62.0MPaISO 527-2Tensile Strain (Break)30%ISO 527-2Flexural Modulus2500MPaISO 178Flexural Stress88.0MPaISO 178ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength5.5k/m²ISO 179/1eAThermalNominal ValueUnitTest MethodHeat Deflection Temperature (1.8 MPa, Unannealed)95.0°CISO 75-2/AFlame RatingHBUnitTest MethodFlame RatingNominal ValueUnitUL 94Drying Temperature80.0 to 90.0°CISO 179.1Drying Time3.0 to 4.0rCISO 179.1Notzle Temperature190 to 180°CISO 179.1Notzle Temperature180 to 210°CISO 179.1Notzle Temperature60.0 to 90.0°CISO 179.1Notzle Temperature180 to 210°CISO 179.1Notzle Temperature60.0 to 90.0°CISO 179.1Notzle Temperature180 to 210°CISO 190.1Notzle Temperature60.0 to 90.0°CISO 190.1Mold Temperature50.0 to 100MPaISO 190.1Holding Pressure0.0 to 0.000MPaISO 190.1Holding Pressure0.0 to 0.000MPaISO 190.1Holding Pressure0.0 to 0.000MPaISO 190.1Holding Pressure0.0 to 0.000MPaISO 190.1Holding Pressure <td>Mechanical</td> <td>Nominal Value</td> <td>Unit</td> <td>Test Method</td>	Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Break)30%ISO 527-2Flexural Modulus550MPaISO 178ImpactNominal ValueUnitTest MethodCharpy Notchel Impact Strength5.5k//m²ISO 179/1eAThermalNominal ValueUnitTest MethodHeat Deflection Temperature (1.8 MPa, Unannealed)5.5Vin?ISO 57-2/AFlammabilityNominal ValueUnitISO 75-2/AFlammabilityNominal ValueUnitISO 75-2/AFlame RatingHBUtitUL 94InjectionNominal ValueUnitISO 75-2/AProgramma Straing8.00 to 90.0°CISO 75-2/AInjectionNotional ValueUnitISO 175-2/AProgramma Straing8.00 to 90.0°CISO 175-2/ANordel Temperature9.00 to 80.0°CISO 175-2/ANordel Temperature100 to 80.0°CISO 175-2/ANordel Temperature100 to 80.0°CISO 175-2/ANordel Temperature100 to 200°CISO 19.0Nozzle Temperature180 to 210°CISO 19.0Nordel Temperature180 to 210°CISO 19.0Mold Temperature50.0 to 100MPaISO 19.0Holding Pressure50.0 to 100MPaISO 19.0Holding Pressure50.0 to 50.0MPaISO 19.0Holding Pressure50.0 to 50.0MPaISO 19.0Holding Pressure50.0 to 50.0MPaISO 19.0Holding	Tensile Modulus	2650	MPa	ISO 527-2
Flexural Modulus2500MPaISO 178Flexural Stress88.0MPaISO 178ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength5.5K//m²ISO 179/1eAThermalNominal ValueUnitTest MethodHeat Deflection Temperature (1.8 MPa, Unannealed)95.0°CISO 75-2/AFlammabilityNominal ValueISO 75-2/AISO 75-2/AFlammabilityNominal ValueUnitUProfestionMoninal ValueUnitISO 178Drying Temperature80.0 to 90.0°CISO 75-2/ADrying Time3.0 to 4.0NrISO 178Rear Temperature160 to 180°CISO 178Middle Temperature190 to 210°CISO 179Nozzle Temperature180 to 210°CISO 178Mold Temperature6.00 to 90.0°CISO 178Mold Temperature5.00 to 100MPaISO 178Mold Temperature5.00 to 100MPaISO 120Mold Temperature5.00 to 100MPaISO 120Mold Temperature5.00 to 0.00MPaISO 120Mold Temperature5.00 to 0.00MPaISO 120Mod Temperature5.00 to 0.00<	Tensile Stress (Yield)	62.0	МРа	ISO 527-2
Flexural Stress88.0MPaISO 178ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength5.5k//m²ISO 179/1eAThermalNominal ValueUnitTest MethodHeat Deflection Temperature (1.8 MPa, Unannealed)5.0°CISO 75-2/AFlammabilityNominal ValueTest MethodFlammabilityNominal ValueUnitUL 94InjectionNominal ValueUnitSo 75-2/ADrying Temperature80.0 to 90.0°CSo 75-2/ADrying Time3.0 to 4.0NorSo 75-2/ANiddle Temperature160 to 180°CSo 75-2/AMiddle Temperature190 to 200°CSo 75-2/ANozze Temperature190 to 200°CSo 75-2/ANozze Temperature180 to 210°CSo 75-2/AMold Temperature6.00 to 90.0°CSo 75-2/ANozze Temperature180 to 210°CSo 75-2/AMold Temperature6.00 to 90.0°CSo 75-2/AMold Temperature5.00 to 100MPaSo 75-2/AMold Temperature5.00 to 100MPaSo 75-2/AHolding Pressure5.00 to 0.050MPaSo 75-2/A	Tensile Strain (Break)	30	%	ISO 527-2
ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength5.5k/m²ISO 179/1eACharpy Notched Impact StrengthS.5VunitTest MethodThermalNominal ValueUnitTest MethodHeat Deffection Temperature (1.8 MPa, Unannealed)95.0°CISO 75-2/AFlammabilityNominal ValueTest MethodUl.94InjectionNominal ValueUnitUl.94InjectionNominal ValueUnitCDrying Temperature80.0 to 90.0°CCDrying Temperature160 to 180°CCNotel Temperature170 to 200°CCNotzel Temperature190 to 210°CCNozel Temperature180 to 210°CCNozel Temperature60.0 to 90.0°CCNozel Temperature50.0 to 100°CCNozel Temperature50.0 to 100MPaCHolding Pressure50.0 to 0500MPaCHolding Pressure0.00 to 0500MPaCHolding Pressure50.0 to 0500MPaCHolding Pressure50.0 to 0500MPaCHolding Pressure50.0 to 0500MPaHolding Pressure	Flexural Modulus	2500	MPa	ISO 178
Charpy Notched Impact Strength 5.5 k //m² ISO 179/1eA Thermal Nominal Value Unit Test Method Heat Deflection Temperature (1.8 MPA, Unannealed) 95.0 °C ISO 75-2/A Flarmability Nominal Value Test Method Flame Rating HB UL 94 Injection Nominal Value Unit Drying Temperature 80.0 to 90.0 °C	Flexural Stress	88.0	MPa	ISO 178
Thermal     Nominal Value     Unit     Test Method       Heat Deflection Temperature (1.8 MPa, Unannealed)     95.0     °C     ISO 75-2/A       Flammability     Nominal Value     Test Method       Flammability     Nominal Value     Test Method       Injection     Mominal Value     UL 94       Injection     Nominal Value     Unit       Drying Temperature     80.0 to 90.0     °C       Drying Temperature     80.0 to 90.0     °C       Drying Temperature     80.0 to 90.0     °C       Middle Temperature     160 to 180     °C       Middle Temperature     160 to 180     °C       Nozzle Temperature     190 to 210     °C       Nozzle Temperature     180 to 210     °C       Nozzle Temperature     60.0 to 90.0     °C       Processing (Meit) Temp     180 to 210     °C       Model Temperature     60.0 to 90.0     °C       Holding Pressure     50.0 to 100     MPa       Holding Pressure     30.0 to 80.0     MPa	Impact	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed) 95.0 °C ISO 75-2/A ISO 75-2/A Test Method Test Method Injection Mominal Value Unit Unit Drying Temperature 80.0 to 90.0 °C Drying Temperature 30.0 to 4.0 hr Rear Temperature 160 to 180 °C Nozel Temperature 160 to 180 °C Nozel Temperature 170 to 200 °C Victor 170 to 200 °C Nozel Temperature 190 to 210 °C Front Temperature 190 to 210 °C Nozels Temperature 180 to 210 °C Nozels Temperature 180 to 210 °C Nozels Temperature 60.0 to 90.0 °C Hold Temperature 50.0 to 100 MPa Holding Pressure 0.00 to 0.500 MPa	Charpy Notched Impact Strength	5.5	kJ/m²	ISO 179/1eA
Unannealed)95.0°CISO 75-2/AFlammabilityNominal ValueTest MethodFlame RatingHBUll 94InjectionNominal ValueUnitDrying Temperature80.0 to 90.0°CDrying Time3.0 to 4.0hrRear Temperature160 to 180°CMiddle Temperature190 to 210°CNozzle Temperature180 to 210°CNozzle Temperature180 to 210°CNozzle Temperature60.0 to 90.0°CNozzle Temperature180 to 210°CNozzle Temperature60.0 to 90.0°CMold Temperature50.0 to 100MPaHolding Pressure50.0 to 100MPaHolding Pressure0.0 to 500MPa	Thermal	Nominal Value	Unit	Test Method
Flammability   Nominal Value   Test Method     Flame Rating   HB   UL 94     Injection   Nominal Value   Unit     Drying Temperature   80.0 to 90.0   °C     Drying Time   3.0 to 4.0   hr     Rear Temperature   160 to 180   °C     Middle Temperature   170 to 200   °C     Nozzle Temperature   190 to 210   °C     Nozzle Temperature   180 to 210   °C     Nodel Temperature   60.0 to 90.0   °C     Nozzle Temperature   180 to 210   °C     Nodel Temperature   5.0.0 to 90.0   °C     Holding Pressure   5.0.0 to 100   MPa     Holding Pressure   3.0.0 to 8.0.0   MPa	Heat Deflection Temperature (1.8 MPa,			
Flame Rating HB UL 94   Injection Nominal Value Unit   Drying Temperature 80.0 to 90.0 °C   Drying Time 3.0 to 4.0 hr   Rear Temperature 160 to 180 °C   Middle Temperature 170 to 200 °C   Front Temperature 190 to 210 °C   Nozzle Temperature 180 to 210 °C   Processing (Melt) Temp 180 to 210 °C   Mold Temperature 60.0 to 90.0 °C   Holding Pressure 50.0 to 100 MPa		95.0	°C	ISO 75-2/A
InjectionNominal ValueUnitDrying Temperature80.0 to 90.0°CDrying Time3.0 to 4.0hrRear Temperature160 to 180°CMiddle Temperature170 to 200°CFront Temperature190 to 210°CNozzle Temperature180 to 210°CNozzle Temperature180 to 210°CNozzle Temperature180 to 210°CNozzle Temperature60.0 to 90.0°CMold Temperature50.0 to 100MPaHolding Pressure30.0 to 80.0MPaBack Pressure0.00 to 0.500MPa	Flammability	Nominal Value		Test Method
Prying Temperature     80.0 to 90.0     °C       Drying Time     3.0 to 4.0     hr       Rear Temperature     160 to 180     °C       Middle Temperature     170 to 200     °C       Front Temperature     190 to 210     °C       Nozzle Temperature     180 to 210     °C       Processing (Melt) Temp     180 to 210     °C       Mold Temperature     60.0 to 90.0     °C       Holding Pressure     50.0 to 100     MPa       Holding Pressure     0.00 to 0.500     MPa	Flame Rating			UL 94
Drying Time3.0 to 4.0hrRear Temperature160 to 180°CMiddle Temperature170 to 200°CFront Temperature190 to 210°CNozzle Temperature180 to 210°CProcessing (Melt) Temp180 to 210°CMold Temperature60.0 to 90.0°CInjection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPa	Injection	Nominal Value	Unit	
Rear Temperature160 to 180°CMiddle Temperature170 to 200°CFront Temperature190 to 210°CNozzle Temperature180 to 210°CProcessing (Melt) Temp180 to 210°CMold Temperature60.0 to 90.0°CInjection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPa	Drying Temperature	80.0 to 90.0	°C	
Middle Temperature170 to 200°CFront Temperature190 to 210°CNozzle Temperature180 to 210°CProcessing (Melt) Temp180 to 210°CMold Temperature60.0 to 90.0°CInjection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPa	Drying Time	3.0 to 4.0	hr	
Front Temperature190 to 210°CNozzle Temperature180 to 210°CProcessing (Melt) Temp180 to 210°CMold Temperature60.0 to 90.0°CInjection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPaBack Pressure0.00 to 0.500MPa	Rear Temperature	160 to 180	°C	
Nozzle Temperature180 to 210°CProcessing (Melt) Temp180 to 210°CMold Temperature60.0 to 90.0°CInjection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPaBack Pressure0.00 to 0.500MPa	Middle Temperature	170 to 200	°C	
Processing (Melt) Temp180 to 210°CMold Temperature60.0 to 90.0°CInjection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPaBack Pressure0.00 to 0.500MPa	Front Temperature	190 to 210	°C	
Mold Temperature 60.0 to 90.0 °C   Injection Pressure 50.0 to 100 MPa   Holding Pressure 30.0 to 80.0 MPa   Back Pressure 0.00 to 0.500 MPa	Nozzle Temperature	180 to 210	°C	
Injection Pressure50.0 to 100MPaHolding Pressure30.0 to 80.0MPaBack Pressure0.00 to 0.500MPa	Processing (Melt) Temp	180 to 210	°C	
Holding Pressure30.0 to 80.0MPaBack Pressure0.00 to 0.500MPa	Mold Temperature	60.0 to 90.0	°C	
Back Pressure 0.00 to 0.500 MPa	Injection Pressure	50.0 to 100	MPa	
	Holding Pressure	30.0 to 80.0	МРа	
Screw Speed 50 to 120 rpm	Back Pressure	0.00 to 0.500	MPa	
	Screw Speed	50 to 120	rpm	

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#### Recommended distributors for this material

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