

PLASTICS ENGINEERING COMPANY

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MATERIALS ENGINEERING LABORATORY DATA REPORT **Plenco 02571** Two-Stage Phenolic

transfer molded

Plenco 02571 is a general purpose, organic filled phenolic molding compound offering optimum cure characteristics while maintaining excellent mechanical and electrical properties. UL recognized under component file E40654. 02571 is available in brown color.

Form Granular Apparent Density 0.60 g/cm³ 37.2 lb/ft³ D189 Specific Gravity 1.41 D792 Mold Shrinkage* 0.0076 m/m 0.0076 in/in D628 Post Shrinkage 72hr 120°C 0.25 % D628 Izod Impact Notched 17.1 J/m 0.32 ft-lb/in D256 Drop Ball Impact 103 J/m 1.9 ft-lb/in Plence Tensile Strength 52 MPa 7,563 psi D638 Tensile Blongation 0.7 % D638 D790 Tensile Iongation 0.7 % D638 D790 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Modulus 7,499 MPa 11,491 psi D790 Compressive Strength 208 MPa 30,155 psi D695 Heat Resistance 197 °C 387 °F D794 Deflection Temperature 1.82MPa 174 °C 346 °F D648 Water Absorption 0.32 % D570 D500 D500 Dissipation Factor, 1MH	PROPERTY	mot	rio	000	lich	ASTM Test Method
Apparent Density 0.60 g/cm³ 37.2 lb/ft³ D188 Specific Gravity 1.41 D792 Mold Shrinkage* 0.0076 m/m 0.0076 in/in D628 Post Shrinkage 72hr 120°C 0.25 % D628 Izod Impact Notched 17.1 J/m 0.32 ft-lb/in D256 Charpy Impact Notched 19.5 J/m 0.36 ft-lb/in D256 Drop Ball Impact 103 J/m 1.9 ft-lb/in Plenc Tensile Strength 52 MPa 7,563 psi D638 Tensile Bongation 0.7 % D638 D190 Flexural Strength 79.2 MPa 11,491 psi D790 Compressive Strength 208 MPa 30,155 psi D698 Heat Resistance 197 °C 387 °F D794 Dielectric Strength short time 1.2.6 kV/mm 319 V/mil D148 Dissipation Factor, 1MHz 0.049 D150 D1642 Volume Resistance 135 sec D498 D150 Dielectric Strength short time 12.6 kV/mm 319 V/mil D14				eng	11311	Method
Specific Gravity 1.41 D792 Mold Shrinkage* 0.0076 m/m 0.0076 in/in D628 Post Shrinkage 72hr 120°C 0.25 % D628 Izod Impact Notched 17.1 J/m 0.32 ft-lb/in D256 Charpy Impact Notched 19.5 J/m 0.36 ft-lb/in D256 Drop Ball Impact 103 J/m 1.9 ft-lb/in Plence Tensile Strength 52 MPa 7,563 psi D638 Tensile Belongation 0.7 % D638 Tensile Elongation D790 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Modulus 7,499 MPa 1,088,000 psi D790 Compressive Strength 208 MPa 30,155 psi D695 Heat Resistance 197 °C 387 °F D794 Deflection Temperature 1.82MPa 174 °C 346 °F D647 Mater Absorption 0.32 % D570 D578 D150 Dielectric Strength short time 12.6 kV/mm 319 V/mil D148 Dissipation Factor, 1M			a/cm ³	37.2	lb/ft ³	D1895
Mold Shrinkage* 0.0076 m/m 0.0076 in/in D628 Post Shrinkage 72hr 120°C 0.25 % D628 Izod Impact Notched 17.1 J/m 0.32 ft-lb/in D256 Charpy Impact Notched 19.5 J/m 0.36 ft-lb/in D256 Drop Ball Impact 103 J/m 1.9 ft-lb/in Plend Tensile Strength 52 MPa 7,563 psi D638 Tensile Iongation 0.7 % D638 Tensile Elongation 0.7 % D638 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Modulus 7,499 MPa 1,088,000 psi D790 Compressive Strength 208 MPa 30,155 psi D695 Heat Resistance 197 °C 387 °F D794 Deflection Temperature 1.82MPa 174 °C 346 °F D648 Water Absorption 0.32 % D570 D570 Rockwell Hardness 88 E scale D785 D150 Dielectric Strength short time 12.6 kV/mm 319 V/mil D149 <td></td> <td></td> <td>0.</td> <td></td> <td></td> <td>D792</td>			0.			D792
Post Shrinkage 72hr 120°C 0.25 % D628 Izod Impact Notched 17.1 J/m 0.32 ft·lb/in D256 Charpy Impact Notched 19.5 J/m 0.36 ft·lb/in D256 Drop Ball Impact 103 J/m 1.9 ft·lb/in Plend Tensile Strength 52 MPa 7,563 psi D638 Tensile Elongation 0.7 % D638 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Modulus 7,499 MPa 1,088,000 psi D790 Compressive Strength 208 MPa 30,155 psi D695 Heat Resistance 197 °C 387 °F D794 Deflection Temperature 1.82MPa 174 °C 346 °F D648 Water Absorption 0.32 % D570 D650 D150 Dielectric Strength short time 12.6 kV/mm 319 V/mil D149 Dissipation Factor, 1MHz 0.049 D150 D150 Permittivity, 1MHz 4.8 D150 D150 Volume Resistivity 6.9E+111 ohm·cm		0.0076	m/m	0.0076	in/in	D6289
Charpy Impact Notched 19.5 J/m 0.36 ft-Ib/in D256 Drop Ball Impact 103 J/m 1.9 ft-Ib/in Plend Tensile Strength 52 MPa 7,563 psi D638 Tensile Modulus 8,012 MPa 1,162,000 psi D638 Tensile Elongation 0.7 % D638 Flexural Strength 79.2 MPa 1,1491 psi D790 Flexural Modulus 7,499 MPa 1,088,000 psi D790 Compressive Strength 208 MPa 30,155 psi D695 Heat Resistance 197<°C		0.25	%			D6289
Drop Ball Impact103J/m1.9ft Ib/inPlendTensile Strength52MPa7,563psiD638Tensile Modulus8,012MPa1,162,000psiD638Tensile Elongation0.7%D638Flexural Strength79.2MPa11,491psiD790Flexural Modulus7,499MPa1,088,000psiD790Compressive Strength208MPa30,155psiD695Heat Resistance197°C387°FD794Deflection Temperature1.82MPa174°C346°FWater Absorption0.32%D570D648Water Absorption0.32%D570D785Dielectric Strength short time12.6kV/mm319V/milD149Dissipation Factor, 1MHz0.049D150D150D150Volume Resistivity6.9E+11ohm·cm2.7E+11ohm·inD257ASTM Arc Resistance135secD495D663Comparative Tracking Index154VD363UL FlammabilityHB @1.5mmUL 9Oxygen Index27.0%D286Coefficient of Thermal Expansion6.6E-05/°C3.7E-05/°FE831	Izod Impact Notched	17.1	J/m	0.32	ft·lb/in	D256
Tensile Strength 52 MPa 7,563 psi D638 Tensile Modulus 8,012 MPa 1,162,000 psi D638 Tensile Elongation 0.7 % D638 D638 D638 D638 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Modulus 7,499 MPa 1,088,000 psi D790 Compressive Strength 208 MPa 30,155 psi D695 Heat Resistance 197 °C 387 °F D794 Deflection Temperature 1.82MPa 174 °C 346 °F D648 Water Absorption 0.32 % D570 D570 Rockwell Hardness 88 E scale D785 Dielectric Strength short time 12.6 kV/mm 319 V/mil D149 Dissipation Factor, 1MHz 0.049 D150 D150 D150 Volume Resistivity 6.9E+11 ohm·cm 2.7E+11 ohm·in D257 ASTM Arc Resistance 135 sec D4	Charpy Impact Notched	19.5	J/m	0.36	ft-lb/in	D256
Tensile Modulus 8,012 MPa 1,162,000 psi D638 Tensile Elongation 0.7 % D638 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Strength 79.2 MPa 11,491 psi D790 Flexural Modulus 7,499 MPa 1,088,000 psi D790 Compressive Strength 208 MPa 30,155 psi D638 Heat Resistance 197 °C 387 °F D794 Deflection Temperature 1.82MPa 174 °C 346 °F D648 Water Absorption 0.32 % D570 D648 D150 Deflectric Strength short time 12.6 kV/mm 319 V/mil D149 Dissipation Factor, 1MHz 0.049 D150 D150 D150 Permittivity, 1MHz 4.8 D150 D495 D638 D150 Volume Resistivity 6.9E+11 ohm cm 2.7E+11 ohm in D257 ASTM Arc Resistance 135 sec D495 D495 D636 <td>Drop Ball Impact</td> <td>103</td> <td>J/m</td> <td>1.9</td> <td>ft-lb/in</td> <td>Plenco</td>	Drop Ball Impact	103	J/m	1.9	ft-lb/in	Plenco
Tensile Elongation0.7 %D638Flexural Strength79.2 MPa11,491 psiD790Flexural Modulus7,499 MPa1,088,000 psiD790Compressive Strength208 MPa30,155 psiD695Heat Resistance197 °C387 °FD794Deflection Temperature1.82MPa174 °C346 °FD648Water Absorption0.32 %D570Rockwell Hardness88 E scaleD785Dielectric Strength short time12.6 kV/mm319 V/milD149Dissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm cm2.7E+11 ohm inD257ASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 9Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05/°FE831	Tensile Strength	52	MPa	7,563	psi	D638
Flexural Strength79.2 MPa11,491 psiD790Flexural Modulus7,499 MPa1,088,000 psiD790Compressive Strength208 MPa30,155 psiD695Heat Resistance197 °C387 °FD794Deflection Temperature1.82MPa174 °C346 °FD648Water Absorption0.32 %D570Rockwell Hardness88 E scaleD785Dielectric Strength short time12.6 kV/mm319 V/milD149Dissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inD257ASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05/°FE831	Tensile Modulus	8,012	MPa	1,162,000	psi	D638
Flexural Modulus7,499MPa1,088,000psiD790Compressive Strength208MPa30,155psiD695Heat Resistance197°C387°FD794Deflection Temperature1.82MPa174°C346°FD648Water Absorption0.32%D570Rockwell Hardness88EscaleD785Dielectric Strength short time12.6kV/mm319V/milD149Dissipation Factor, 1MHz0.049D150D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11ohm·cm2.7E+11ohm·inD257ASTM Arc Resistance135secD495Comparative Tracking Index154VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0%D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05/°FE831	Tensile Elongation	0.7	%			D638
Compressive Strength208MPa30,155psiD695Heat Resistance197°C387°FD794Deflection Temperature1.82MPa174°C346°FD648Water Absorption0.32%D570Rockwell Hardness88EscaleD785Dielectric Strength short time12.6kV/mm319V/milD149Dissipation Factor, 1MHz0.049D150D150Volume Resistivity6.9E+11ohm-cm2.7E+11ohm-inD257ASTM Arc Resistance135secD495Comparative Tracking Index154VD363UL FlammabilityHB @1.5mmUL 90xygen Index27.0%D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05 /°FE831	Flexural Strength	79.2	MPa	11,491	psi	D790
Heat Resistance197°C387°FD794Deflection Temperature1.82MPa174°C346°FD648Water Absorption0.32%D570Rockwell Hardness88EscaleD785Dielectric Strength short time12.6kV/mm319V/milD149Dissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11ohm·cm2.7E+11ohm·inD257ASTM Arc Resistance135secD495Comparative Tracking Index154VD363UL FlammabilityHB @1.5mmUL 94D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05 /°FE831	Flexural Modulus	7,499	MPa	1,088,000	psi	D790
Deflection Temperature1.82MPa174 °C346 °FD648Water Absorption0.32 %D570Rockwell Hardness88 E scaleD785Dielectric Strength short time12.6 kV/mm319 V/milDissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05/°FE831	Compressive Strength	208	MPa	30,155	psi	D695
Water Absorption0.32 %D570Rockwell Hardness88 E scaleD785Dielectric Strength short time12.6 kV/mm319 V/milDissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /ºC3.7E-05/ºFE831	Heat Resistance	197	°C	387	٥F	D794
Rockwell Hardness88 E scaleD785Dielectric Strength short time12.6 kV/mm319 V/milD149Dissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm cm2.7E+11 ohm inASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 9Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /ºC3.7E-05/ºFE831	Deflection Temperature 1.82MPa	174	°C	346	٥F	D648
Dielectric Strength short time12.6 kV/mm319 V/milD149Dissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /ºC3.7E-05/ºFE831	Water Absorption	0.32	%			D570
Dissipation Factor, 1MHz0.049D150Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /ºC3.7E-05/ºFE831	Rockwell Hardness	88	E scale			D785
Permittivity, 1MHz4.8D150Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inD257ASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 9Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05/°F	Dielectric Strength short time	12.6	kV/mm	319	V/mil	D149
Volume Resistivity6.9E+11 ohm·cm2.7E+11 ohm·inD257ASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /ºC3.7E-05/ºFE831	Dissipation Factor, 1MHz	0.049				D150
ASTM Arc Resistance135 secD495Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05 /°FE831	Permittivity, 1MHz	4.8				D150
Comparative Tracking Index154 VD363UL FlammabilityHB @1.5mmUL 9Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05/°FE831	Volume Resistivity	6.9E+11	ohm∙cm	2.7E+11	ohm∙in	D257
UL FlammabilityHB @1.5mmUL 94Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /ºC3.7E-05 /ºFE831	ASTM Arc Resistance	135	sec			D495
Oxygen Index27.0 %D286Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05 /°FE831	Comparative Tracking Index	154	V			D3638
Coefficient of Thermal Expansion6.6E-05 /°C3.7E-05 /°FE831	UL Flammability	HB @1	.5mm			UL 94
	Oxygen Index	27.0	%			D2863
	Coefficient of Thermal Expansion	6.6E-05	/ºC	3.7E-05	/ºF	E831
Thermal Conductivity 100°C0.40 W/m/°C0.23 Btu/hr/ft/°FE146	Thermal Conductivity 100°C	0.40	W/m/⁰C	0.23	Btu/hr/ft/⁰F	E1461

Store in cool dry place.

The Typical Values listed are results obtained from the testing of standard specimens using the stated test procedures, with said specimens molded under controlled laboratory conditions from representative samplings of the product. Although Plastics Engineering Company at all times reserves the right to make changes in the materials, suppliers and processing, the values listed as typical are those to be expected at the time of our manufacture. The final determination of the accuracy or completeness of any information, the suitability of the product for the use contemplated, the manner of its use, and the matter of any infringement of patents in use, are all the sole responsibility of the user. PLASTICS ENGINEERING COMPANY MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THIS PRODUCT, INCLUDING NO WARRANTY OF THE MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Plastics Engineering Company reserves at all times the right to discontinue the production of any or all of its products. This is an uncontrolled copy and not subject to updates. *Mold Shrinkage obtained under controlled laboratory conditions with relatively simple mold geometry and should be used for comparison purposes only and not for actual tool design. ver 080624