



105 Epoxy Resin® / 205 Fast Hardener®

Technical Data Sheet

105 System 105/205

General Description

105/205 Epoxy is used for general coating and bonding applications at lower temperatures and to produce a rapid cure that develops its physical properties quickly at room temperature.

105/205 forms a high-strength, moisture-resistant solid with excellent bonding and barrier coating properties. It will wet out and bond to wood fiber, fiberglass, reinforcing fabrics, foam and other composite materials, and a variety of metals.

105/205 Epoxy can be thickened with WEST SYSTEM fillers to bridge gaps and fill voids and can be sanded and shaped when cured. With roller applications, it has excellent thin-film characteristics, allowing it to flow out and self-level without “fish-eyeing.” Multiple coats of 105/205 Epoxy create a superior moisture barrier and a tough, stable base for paints and varnishes. It is formulated without volatile solvents resulting in a very low VOC content. It has a relatively high flash point, no strong solvent odor and does not shrink after curing. It is not intended for clear coating natural finished wood.

Handling Characteristics

Mix ratio by volume (300 Mini Pump ratio)	5 parts resin : 1 part hardener
by weight	5.19 : 1
Acceptable ratio range by weight	4.83 : 1 to 6.20 : 1
Mix viscosity (at 72°F) ASTM D-2393	975 cps
Pot life (100g at 72°F)	9 to 12 minutes
Working time, thin film*	60 to 70 minutes
Cure to a solid, thin film*	6 to 8 hours
Cure to working strength	1 to 4 days
Minimum recommended temperature	40°F (4°C)

**Epoxy cures faster at higher temperatures and in thicker applications.*

Physical Properties of Cured Epoxy

Specific gravity	1.18
Hardness (Shore D) ASTM D-2240	83
Compression yield ASTM D-695	11,400 psi
Tensile strength ASTM D638	7,900 psi
Tensile elongation ASTM D-638	3.4%
Tensile modulus ASTM D-638	4.08E+05
Flexural strength ASTM D-790	14,100 psi
Flexural modulus ASTM D-790	4.61E+05
Heat deflection temperature ASTM D-648	118°F
Onset of Tg by DSC	129°F
Ultimate Tg	142°F

Storage/Shelf Life

Store at room temperature. Keep containers closed to prevent contamination. With proper storage, resin and hardeners should remain usable for many years. After a long storage, verify the metering accuracy of the pumps. Mix a small test batch to assure proper curing.

Over time, 105 Resin will thicken slightly and will therefore require extra care when mixing. Repeated freeze/thaw cycles during storage may cause crystallization of 105 Resin. Warm resin to 125°F and stir to dissolve crystals. Hardener may darken with age, but physical properties are not affected by color. Be aware of a possible color shift if very old and new hardener are used on the same project.

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105 Epoxy Resin® / 206 Slow Hardener®

Technical Data Sheet

105 System 105/206

General Description

105/206 Epoxy is used for general coating and bonding applications when extended working and cure time are needed or to provide adequate working time at higher temperatures.

105/206 forms a high-strength, moisture-resistant solid with excellent bonding and barrier coating properties. It will wet out and bond to wood fiber, fiberglass, reinforcing fabrics, foam and other composite materials, and a variety of metals.

105/206 Epoxy can be thickened with WEST SYSTEM fillers to bridge gaps and fill voids and can be sanded and shaped when cured. With roller applications, it has excellent thin-film characteristics, allowing it to flow out and self-level without “fish-eyeing.” Multiple coats of 105/206 Epoxy create a superior moisture barrier and a tough, stable base for paints and varnishes. It is formulated without volatile solvents resulting in a very low VOC content. It has a relatively high flash point, no strong solvent odor and does not shrink after curing. It is not intended for clear coating natural finished wood.

Handling Characteristics

Mix ratio by volume (300 Mini Pump ratio)	5 parts resin : 1 part hardener
by weight.....	5.36 : 1
Acceptable ratio range by weight	4.84 : 1 to 6.19 : 1
Mix viscosity (at 72°F) ASTM D-2393	725 cps
Pot life (100g at 72°F)	20 to 25 minutes
Working time, thin film*	90 to 110 minutes
Cure to a solid, thin film*	10 to 15 hours
Cure to working strength	1 to 4 days
Minimum recommended temperature	60°F (16°C)

**Epoxy cures faster at higher temperatures and in thicker applications.*

Physical Properties of Cured Epoxy

Specific gravity	1.18
Hardness (Shore D) ASTM D-2240	83
Compression yield ASTM D-695	11,500 psi
Tensile strength ASTM D638	7,300 psi
Tensile elongation ASTM D-638	4.5%
Tensile modulus ASTM D-638	4.60E+05 psi
Flexural strength ASTM D-790	11,800 psi
Flexural modulus ASTM D-790	4.50E+05
Heat deflection temperature ASTM D-648.....	123°F
Onset of Tg by DSC	126°F
Ultimate Tg	139°F

Storage/Shelf Life

Store at room temperature. Keep containers closed to prevent contamination. With proper storage, resin and hardeners should remain usable for many years. After a long storage, verify the metering accuracy of the pumps. Mix a small test batch to assure proper curing.

Over time, 105 Resin will thicken slightly and will therefore require extra care when mixing. Repeated freeze/thaw cycles during storage may cause crystallization of 105 Resin. Warm resin to 125°F and stir to dissolve crystals. Hardener may darken with age, but physical properties are not affected by color. Be aware of a possible color shift if very old and new hardener are used on the same project.

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105 Epoxy Resin[®] / 207 Special Clear Hardener[™]

Technical Data Sheet

105 System 105/207

General Description

105/207 Epoxy is used for coating and fiberglass cloth application where an exceptionally clear, moisture-resistant, natural wood finish is desired. 105/207 is blush free and will not turn cloudy in humid conditions. Thin film applications roll out and tip off smoothly, requiring less sanding in preparation for finish coatings.

Three coats or more can be applied in one day without additional surface preparation. Fewer coats are required to fill fiberglass weave and in most cases the final coating can be sanded the following day.

105/207 forms a high-strength, moisture-resistant solid with excellent bonding and barrier coating properties and is used as a structural adhesive for gluing and laminating.

It has excellent compatibility with paints and varnishes. An ultraviolet inhibitor in 207 helps provide a beautiful, long lasting finish when used with quality UV-filtering varnish. It is formulated without volatile solvents resulting in a very low VOC content. It has a relatively high flash point, no strong solvent odor and does not shrink after curing.

Handling Characteristics

Mix ratio by volume (300 Mini Pump ratio).....	3 parts resin : 1 part hardener
by weight.....	3.64 : 1
Acceptable ratio range by weight	3.41 : 1 to 4.16 : 1
Mix viscosity (at 72°F) ASTM D-2393	760cps
Pot life (100g at 72°F).....	22 to 26 minutes
Working time, thin film*	110 to 120 minutes
Cure to a solid, thin film*	10 to 15 hours
Cure to working strength	1 to 4 days
Minimum recommended temperature.....	60°F (16°C)

**Epoxy cures faster at higher temperatures and in thicker applications.*

Physical Properties of Cured Epoxy

Specific gravity	1.15
Hardness (Shore D) ASTM D-2240	84.4
Compression yield ASTM D-695	11,000 psi
Tensile strength ASTM D638	6,750 psi
Tensile elongation ASTM D-638.....	3.8%
Tensile modulus ASTM D-638.....	4.40E+05
Flexural strength ASTM D-790	11,300 psi
Flexural modulus ASTM D-790	4.12E+05
Heat deflection temperature ASTM D-648	117°F
Onset of Tg by DSC	116°F
Ultimate Tg	116°F

Storage/Shelf Life

Store at room temperature. Keep containers closed to prevent contamination. With proper storage, resin and hardeners should remain usable for many years. After a long storage, verify the metering accuracy of the pumps. Mix a small test batch to assure proper curing.

Over time, 105 Resin will thicken slightly and will therefore require extra care when mixing. Repeated freeze/thaw cycles during storage may cause crystallization of 105 Resin. Warm resin to 125°F and stir to dissolve crystals.

Hardener may darken with age, but physical properties are not affected by color. If clear finishing, be aware of a possible color shift if very old and new hardener are used on the same project.

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105 Epoxy Resin® / 209 Extra Slow Hardener®

Technical Data Sheet

105 System 105/209

General Description

105/209 Epoxy is used for general coating and bonding applications in extremely warm and/or humid conditions or when extended working time is desired at room temperature. Provides approximately twice the working time of 206 Slow Hardener.

105/209 forms a high-strength, moisture-resistant solid with excellent bonding and barrier coating properties. It will wet out and bond to wood fiber, fiberglass, reinforcing fabrics, foam and other composite materials, and a variety of metals.

105/209 Epoxy can be thickened with WEST SYSTEM fillers to bridge gaps and fill voids and can be sanded and shaped when cured. With roller applications, it has excellent thin-film characteristics, allowing it to flow out and self-level without “fish-eyeing.” Multiple coats of 105/209 Epoxy creates a superior moisture barrier and a tough, stable base for paints and varnishes. It is formulated without volatile solvents resulting in a very low VOC content. It has a relatively high flash point, no strong solvent odor and does not shrink after curing. It is not intended for clear coating natural finished wood.

Handling Characteristics

Mix ratio by volume (300 Mini Pump ratio)	3 parts resin : 1 part hardener
by weight	3.68 : 1
Acceptable ratio range by weight	3.30 : 1 to 4.03 : 1
Mix viscosity (at 72°F) ASTM D-2393	650 cps
Pot life (100g at 72°F)	40-50 minutes
Working time, thin film*	3 to 4 hours
Cure to a solid, thin film*	20 to 24 hours
Cure to maximum strength	4 to 9 days
Minimum recommended temperature	70°F (21°C)

**Epoxy cures faster at higher temperatures and in thicker applications.*

Physical Properties of Cured Epoxy

Specific gravity	1.16
Hardness (Shore D) ASTM D-2240	82
Compression yield ASTM D-695	12,000 psi
Tensile strength ASTM D-638	7,300 psi
Tensile elongation ASTM D-638	3.6%
Tensile modulus ASTM D-638	3.98E+05 psi
Flexural strength ASTM D-790	12,500 psi
Flexural modulus ASTM D-790	3.97E+05
Heat deflection temperature ASTM D-648	117°F
Onset of Tg by DSC	122°F
Ultimate Tg	130°F
Annular shear fatigue @ 100,000 cycles	9,900 lb
VOC Content EPA Method 24/ASTM 2369-93	19.3 g/L or 0.16 lb./gal.
Volume percent solids	96.9% ± 3%

Storage/Shelf Life

Store at room temperature. Keep containers closed to prevent contamination. With proper storage, resin and hardeners should remain usable for many years. After a long storage, verify the metering accuracy of the pumps. Mix a small test batch to assure proper curing.

Over time, 105 Resin will thicken slightly and will therefore require extra care when mixing. Repeated freeze/thaw cycles during storage may cause crystallization of 105 Resin. Warm resin to 125°F and stir to dissolve crystals.

Hardener may darken with age, but physical properties are not affected by color. Be aware of a possible color shift if very old and new hardener are used on the same project.

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