

MARINE PRO EPOXY SYSTEMS (FOR HAND LAYUP)

Section 1: Description

This system is a bisphenol A resin-based epoxy resin, modified cycloaliphatic amine curing agent system designed for the boating industry. Special features of this system include lowered viscosity, non-blushing characteristics, low vapor, excellent color, high gloss, excellent resistance to water vapor pressure, excellent U.V. stability and high strength. Marine Pro is also one of our unique curing resins which allows for better flexibility with much less tendency to crack upon impact.

Advantages: Low VOC, Very low color and good color stability, Good chemical resistance, High gloss, Good resistance to amine blush, Variable Toughness vs. Modulus

Storage: At least 12 months from the date of manufacture in the original sealed container at ambient temperature. Store away from heat and excessive humidity in tightly closed containers.

Section 2: Typical Handling Characteristics

Mix ratio by volume 2 parts resin : 1 part hardener

Mix ratio by weight 100 resin : 44 hardener

Recommended epoxy working temperature 80°F

MATERIAL CHARACTERISTICS	DENSITY (kg/litre)	VISCOSITY (CPS)
MARINE PRO RESIN	1.14	600
MARINE PRO XSLOW HARDENER	.98	16
MARINE PRO SLOW HARDENER	1.00	15
MARINE PRO FAST HARDENER	1.01	14
MARINE PRO XFAST HARDENER	1.00	15

CURING CHARACTERISTICS	XSLOW	SLOW	FAST	XFAST
POT LIFE (100 grams @77F)	75 min	30 min	15 min	9 min
POT LIFE (500mL @77F)	70 min	25 min	11 min	8 min
THIN FILM SET (@77F)	7.5 hrs	3.5 hrs	1.5 hrs	1.0 hrs
PEAK EXOTHERM (100g mix @77F)	243 F	295 F	305 F	317 F
FINAL CURE	7 DAYS	7 DAYS	7 DAYS	7 DAYS

Section 3: Typical Cured Properties

Barcol Hardness82
 Compression Yield.....11,700 psi
 Tensile Strength9,300 psi
 Tensile Modulus.....380,000 psi
 Flexural Strength.....14,900 psi
 Flexural Modulus.....380,000 psi
 Heat Deflection Temperature.....115°F
 Elongation %.....6.5%

MARINE PRO INFUSION EPOXY SYSTEMS (WITH MARINE PRO INFUSION RESIN)

Section 1: Description

Marine Pro Infusion System was derived as a specific line from the composite pro series. It is a modified bisphenol A resin of low viscosity offering an excellent balance of color, UV stability, varying hardener speeds, easy mix ratios, extremely low vapor pressure, excellent chemical adhesion, and high gloss finish. Flexibility in the resin allows production a degree of flexibility. Different composite fabrics and different applications require different resin stiffness and/or toughness. Marine Pro Infusion has been developed to allow a certain amount of impact to occur without cracking.

Storage: At least 12 months from the date of manufacture in the original sealed container at ambient temperature. Store away from heat and excessive humidity in tightly closed containers.

Section 2: Typical Handling Characteristics

Mix ratio by volume 3 parts resin : 1 part hardener
 Mix ratio by weight 100 resin : 30 hardener
 Recommended epoxy working temperature 80°F

MATERIAL CHARACTERISTICS	DENSITY (kg/litre)	VISCOSITY (CPS)
MARINE PRO INFUSION RESIN	1.13	250
3100 XSLOW HARDENER	.95	17.4
3100 SLOW HARDENER	.96	11.8
3100 MEDIUM HARDENER	.97	12.4
3100 FAST HARDENER	1.0	14.0

CURING CHARACTERISTICS	XSLOW	SLOW	MEDIUM	FAST
POT LIFE (100g mix @77F)	50 min	30 min	16 min	12 min
POT LIFE (500mL mix @77F)	30 min	18 min	14 min	10 min
THIN FILM SET (@77F)	5 hrs	3 hrs	2 hrs	1.5 hrs
PEAK EXOTHERM (150g mix @77F)	283 F	257 F	280 F	300 F
FINAL CURE	7 DAYS	7 DAYS	7 DAYS	7 DAYS

Section 3: Typical Cured Properties

Barcol Hardness84
 Compression Yield.....15,400 psi
 Tensile Strength10,800 psi
 Tensile Modulus.....445,000 psi
 Flexural Strength.....14,900 psi
 Flexural Modulus.....510,000 psi
 Heat Deflection Temperature.....124°F
 Elongation %.....4.1%

MARINE PRO INFUSION EPOXY SYSTEMS (WITH EXT RESIN)

Section 1: Description

This system was specifically designed for large infusion projects where extended pot life and curing times are required. It is a modified bisphenol A resin of low viscosity offering an excellent balance of color, UV stability, varying hardener speeds, easy mix ratios, extremely low vapor pressure, excellent chemical adhesion, and high gloss finish. Flexibility in the resin allows production a degree of flexibility. Different composite fabrics and different applications require different resin stiffness and/or toughness. Marine Pro Infusion has been developed to allow a certain amount of impact to occur without cracking.

Advantages: Low VOC, Very low color and good color stability, Good chemical resistance, High gloss, Good resistance to amine blush, Variable Toughness vs. Modulus, mid-range flexibility stiffness and viscosity.

Storage: At least 12 months from the date of manufacture in the original sealed container at ambient temperature. Store away from heat and excessive humidity in tightly closed containers.

Section 2: Typical Handling Characteristics

Mix ratio by volume 3 parts resin : 1 part hardener
 Mix ratio by weight 100 resin : 30 hardener
 Recommended epoxy working temperature 80°F

MATERIAL CHARACTERISTICS	DENSITY (kg/litre)	VISCOSITY (Cp)
MARINE PRO EXT RESIN	1.14	700
EXT XXSLOW HARDENER	.95	17.4
EXT XSLOW HARDENER	.96	14.8
EXT SLOW HARDENER	.96	11.8

CURING CHARACTERISTICS	XXSLOW	XSLOW	SLOW
POT LIFE (100g mix @77F)	180 min	110 min	80 min
POT LIFE (500g mix @77F)	Not Tested	Not Tested	Not Tested
THIN FILM SET (@77F)	8.5 hrs	6.5 hrs	5.5 hrs
PEAK EXOTHERM (150g mix @77F)	220 F	270 F	283 F
FINAL CURE	7 DAYS	7 DAYS	7 DAYS

Section 3: Typical Cured Properties

Barcol Hardness82
 Compression Yield.....11,700 psi
 Tensile Strength9,300 psi
 Tensile Modulus.....380,000 psi
 Flexural Strength.....14,900 psi
 Flexural Modulus.....380,000 psi
 Heat Deflection Temperature.....115°F
 Elongation %.....6.5%