

**BEACON****TECHNICAL DATA SHEET****MAGNA-GRIP®  
EQUAL MIX EPOXY**Beacon Adhesives Co. Inc. 125  
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**PRODUCT SUMMARY**

Magna-Grip is a thixotropic "non-sag", high strength, 100% reactive, room temperature curing formulated epoxy adhesive for:

- Bonding rigid expanded plastic foams to themselves or to metal, plywood, or other rigid materials.
- Bonding a wide variety of skins to cores (expanded polystyrene foam, foamed glass, honeycomb, etc.) in the fabrication of sandwich panels.
- Bonding all metals and other rigid materials (such as glass, ceramics, most plastics, plastic foams, structural laminates) to themselves and to each other.

Fully cured bonds attain lap shear strengths in the neighborhood of 3,000 psi when tested at room temperature using MMM-A-132 procedure. Fully cured bonds exhibit minimal shrinkage, are electrical insulators and provide excellent resistance to weather, galvanic action and most chemical, acids and alkalis.

**Product Data**

	Viscosity (cps) at 77° F	Color	Base	Wgt/Gal	Solids	Diluant	Shelf Life
<b>Part A</b>	920,000	Red	Modified	10 lbs.	100%	Do not	1 year
<b>Part B</b>	300,000	Yellow	Epoxy	8.6 lbs.	100%	dilute	1 year

**Characteristics**

When mixed, Magna-Grip is soft and buttery, making it extremely easy to spread smoothly and evenly. Once it is applied it maintains its form and does not flow during the cure cycle. It is excellent for "poor fit" and similar void-filling applications as well as where dripping or running of adhesive must be controlled.

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	Mixing Ratio (by weight)	Properties	Pot Life @ 77° F	Average Lap Shear Strength
Part A Part B	100 PARTS 100 PARTS	For best balance of properties.	45 minutes ( 1 qt)	2200 psi

## Surface Preparation

All bonding surfaces must be thoroughly cleaned, degreased and dried. For plastic surfaces, remove mold release if any.

## Preparation of adhesive

Always stir each part thoroughly first. Proportion accurately and mix slowly to avoid entrapping air.

Magna-Grip Part A is colored red; Part B is colored Amber. Mix equal amounts (by weight) and stir until the color of the mixture is uniform.

**Note:** Pot life can be lengthened substantially if shallow mixing vessels are used or smaller batches are mixed. Cover mixed material to prevent water absorption.

Mixed adhesive may be applied with paint roller, brush, etc. Apply enough mixed adhesive to leave about 4-6 mils in the final glue line. This may be accomplished by coating 4-6 mils on one surface only or by coating 2-3 mils on each surface.

If one surface is porous, more adhesive must be applied to fill the voids and yet produce a final glue line thickness of 4-6 mils.

## Cure Time

### Room Temperature

At room temperature, assemblies can be handled in approximately 8-14 hours. Magna-Grip develops 85% of its maximum strength in 24-48 hours.

**NOTE:** The bond continues to advance in strength for approximately one week .

**Fast Cure**

If a faster cure is required, the following cycles may be used:

**Elevated Temperatures**

Temperature	Cure Time
150° F	120 minutes
200° F	45 minutes
250° F	30 minutes
300° F	10 minutes

Bonds will continue to improve in strength at room temperature until optimum is reached, usually within 3-4 days.

**Properties**

Hardness	Shore D 76 ± .02
Volume Resistivity @ 25C ± 3C	Min. 100 x 10 <sup>14</sup> ohm-cm
Dielectric Constant @ 105 cps	2.98 ± .1
Shrinkage Linear, percent	0.7 % Max.

Typical lap shear values obtained when Magna-Grip is used to bond 0.064" etched 202413 aluminum alloy to itself in a 1/2 overlap are as follows:

Test Temperature	Tensile Shear, psi
-67° F	2000
77° F	2200
120° F	1200
180° F	400
200° F	200