



PARSON ADHESIVES, INC.

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PARBOND 905 Polyurethane Adhesive

PARBOND 905 is a two-component, fast setting, room temperature cure structural polyurethane adhesive system. This sand able adhesive system has an excellent adhesion to wide variety of surfaces.

Feature:

- Fast setting time with convenient 1:1 mix ratio
- Excellent adhesion to wide variety of surfaces such as Aluminum, Stainless steel, ABS, PVC, Polyurethane, Composites, Thermoplastics, Thermosetting Plastics, Wood, Glass, Concrete without any use of primer.

Typical Uncured Properties:

	<u>Part A</u>	<u>Part B</u>	<u>Mixed</u>
Color	Beige	Black	Black
Viscosity @ 25 ^o C Brookfield, cps	30 – 60,000	70 – 140,000	Paste
Weight per Gallon	11.2	11.3	
Mix Ratio by Volume	1:1		
Mix Ratio by Weight	1:1		
Working Time	4 - 6 Minutes		
Fixture Time	12 -15 Minutes		
Functional Cure	20 – 30 minutes		
Full Cure	24 hours		
Service Temperature	-40 ^o F to 250 ^o F		
Coverage per lb.	94 sq. inch per lb @ 1/4"		

Typical Cured Properties:

T-Peel Strength	65 – 75 Pli	ASTM D1876
Tensile Elongation	200%	ASTM D638
Shore Hardness	65 – 70 D	ASTM D 2240
Dielectric Strength	350	volts/mil ASTM D 149
Cure Shrinkage	0.0014 in./in.	ASTM D 2566
Tear Resistance	400 Pli	ASTM D 624
Tensile Strength	2,200 psi	ASTM D 638



Lap Shear Strength after 7 days at 25 °C:

ABS to ABS	1, 250 psi	Aluminum to Aluminum	2,225 psi
Steel to Steel	2050 psi	Concrete to Concrete	1940 psi
Glass to Glass	4100 psi	GBS to GBS	2750 psi
SMC to SMC	1200 psi	Galvanized Metal to Metal	2840 psi

Off Ratio Performance

PARBOND polyurethane adhesives are designed such a way that off ratio does not affect the final properties of the bond performance. Following table shows the result of the off ratio:

Ratio	Fixture Time	Hardness	Lap Shear Strength
0.8:1	5 - 7 minutes	61D	2,175 psi
1:1	4 - 6 minutes	61D	2,225 psi
1.2:1	3 - 5 minutes	61D	2,300 psi

Aluminum / Aluminum According to ASTM D 1002

Result

The above data shows that there is minor change in the lap shear strength and curing properties of the adhesive when mixed off ratio.

Environmental Resistance

PARBOND 905 has excellent resistance to harsh environment conditions. The testing data is as follows:

Condition	Lap Shear Strength & Mode of Failure
Initial	2, 225 psi – Cohesive Failure
Environmental Cycle – 30 days	2, 275 psi – Cohesive Failure

Lap Shear Strength ASTM D 1002 – Aluminum / Aluminum

Environmental Cycle = 8 hours @ -30 °C, 8 hours @ 85 °C, 8 hours @ 30 °C @ 100% Relative Humidity

Result

The lap shear strength has increased after environmental cycle. PARBOND 905 perform better under these conditions compare to the substrates bonded. Substrates may have less resistance to these conditions compare to adhesive.

Surface Preparation:

Clean surface by solvent-wiping any deposits of heavy grease, oil, dirt, or other contaminants. Surface can also be cleaned with industrial cleaning equipment such as vapor phase degreasers or hot aqueous baths. If working with metal, abrade or roughen the surface to significantly increase the microscopic bond area and increase the bond strength.

Mixing Procedure:

Proper homogenous mixing of resin and hardener is essential for the curing and development of stated strengths.

50 ML/400ML CARTRIDGES

1. Attach cartridge to 50ml or 400ml manual or pneumatic dispensing systems.
2. Open tip.
3. Burp cartridge by squeezing out some material until both sides are uniform (ensures no air bubbles are present during mixing).
4. Attach mix nozzle to end of cartridge.
5. Apply to surface and attach other substrate quickly, as you have 5 minutes of working time to use the product. Substrates can be clamped with a bond line thickness as small as 0.007".

Storage: Store in cool, dry place. Shelf life is based on continuous storage between 55°F and 75°F. Long term exposure above 75°F will reduce the shelf life of these materials. Prolonged exposure of adhesive, including cartridges which contain adhesive, above 100°F quickly diminishes the product's reactivity and should be avoided. Shelf life can be extended by refrigeration (45°F - 55°F). These products should never be frozen.

Packaging:

Available in 50 ml, 200 ml and 400 ml dispensing cartridge system. Bulk packing in 5 gallon and 50-gallon drum.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the material.

Warranty: All products purchased from or supplied by Parson are subject to terms and conditions set out in the contract. Parson warrants only that its product will meet those specifications designated as such herein or in other publications. All other information supplied by Parson is considered accurate but are furnished upon the express condition the customer shall make its own assessment to determine the product's suitability for a particular purpose. Parson makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent.