



TECHNICAL INFORMATION

HARDMAN® Urethane D-50 DOUBLE/BUBBLE® Green/Beige Package #04022

PRODUCT DESCRIPTION

Urethane D-50 is a semi-rigid, two-component, extra-fast setting polyurethane structural adhesive. It displays an excellent combination of shear strength and peel strength, with good impact and fatigue resistance. It is highly recommended for bonding engineering thermoplastics, SMC, laminated surfaces, repair of reaction injection molded parts and other quick repairs of sporting goods, such as skis, snow boards and golf clubs.

Urethane D-50 is recommended for the following substrates:

<u>Metal</u>	<u>Plastic</u>	<u>Other</u>
Carbon Steel	Epoxy	Rubber
Aluminum	Phenolic	Stone
	Urethane	Glass
		China
		Leather

TYPICAL USES

Urethane D-50 is ideal for automotive repairs. It is also an excellent adhesive for repairing shoes, ski boots and other sports equipment and conveyor belts.

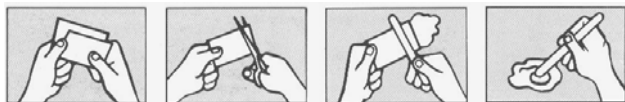
PACKAGING

The DOUBLE/BUBBLE package is a handy, dual-pouch, one-shot, job-size packaging concept. It reduces the waste typically associated with the use of larger quantities of two-component adhesives. This unique packaging ensures that DOUBLE/BUBBLE adhesives are always factory fresh and accurately portioned for optimum adhesive performance.

Urethane D-50 is also available in poly bottles, 1-gallon cans, 5-gallon pails and 55-gallon drums.

HOW TO USE

Surface must be clean and dry before application. Remove all chemicals, dirt, wax and oil.



FOLD SNIP SQUEEZE MIX/APPLY

Fold the DOUBLE/BUBBLE package along the center seal, snip the end, squeeze out the contents, mix thoroughly and apply.

TYPICAL UNCURED PROPERTIES

	<u>Part A</u>	<u>Part B</u>	<u>Mixed</u>
Color	Brown	White	Beige
Viscosity @ 25 °C,cps	13,000	7,000	10,000
Weight per Gallon, lbs.	9.3	12.3	10.6
Specific Gravity @ 25 °C	1.11	1.47	1.27
Work time, minutes	---	---	3 - 5
Handling strength, minutes	---	---	60
Filler type	None	Non-Abrasive	Non-Abrasive
Shelf Life, months	12	12	---

TYPICAL CURED PROPERTIES

(Tested at 25 °C unless otherwise indicated)

<u>Test</u>	<u>Result</u>
Hardness, Shore D	65
Maximum Service Temp.	79 °C (175 °F)

Lap Shear Strength (acid-etched aluminum to aluminum)

Test Temperature	-40 °C	25 °C	82 °C	149 °C
Shear Strength, psi	4,580	2,960	470	380

T-Peel Strength (acid-etched aluminum to aluminum)

Test Temperature	-40 °C	25 °C	82 °C
Peel Strength, pli	4.0	62.0	2.5

STORAGE AND HANDLING

Store DOUBLE/BUBBLE adhesives at room temperature in a dry environment. Extreme low temperatures may cause crystallization. Extreme high temperatures may degrade the properties.

A wide variety of cleaning solutions are available for cured and uncured epoxies and polyurethanes

SAFETY

These materials are intended for commercial and industrial use only, and the practices of good housekeeping, safety and cleanliness should be followed before, during and after use.

Although the system contains low volatility materials, care should be taken in handling. Use adequate ventilation in the work area.

These materials may cause dermatitis in susceptible individuals. Keep off skin and out of eyes. In case of accidental skin contact, wash thoroughly with soap and water. In case of eye contact, flush eyes thoroughly with water and consult a physician immediately.

Refer to Material Safety Data Sheet for additional information.

ADDITIONAL INFORMATION

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NOTE

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