



## PUMA BOND<sup>®</sup> 41

### Introduction

PUMA Bond 41 is a one part, single coat bonding system. PUMA Bond 41 is suitable for bonding castable polyurethane elastomers and RIM polyurethanes to a variety of substrates, including mild steel, stainless steel, brass, aluminum, acrylic plastics, ABS, GRP, epoxies, and concrete at ambient temperatures of 68° F (20° C) or above.

The system has been designed to bond polyurethane elastomers curing at temperatures from 68–194° F (20–90° C). However, higher temperature curing elastomers, also bond well with PUMA Bond 41.

When used as a two component adhesive with PUMA Cure B, improved environmental resistance is achieved and the system will bond fusion bonded epoxies and cured elastomers such as NR, CR, PU, etc.

### Metal Surface Preparation

PUMA Bond 41 must be applied to carefully prepared surfaces for it to be effective. Surfaces should ideally be gritblasted (No.40 or 50 grit) and degreased. Alternatively, proprietary phosphated surfaces may be used.

### How to Apply

PUMA Bond 41 must be mixed thoroughly before and during use and may be applied to the metal substrate by brushing, dipping, or spraying.

After application the system should be left to dry for 20–30 minutes at room temperature. The best bonding results are obtained using a dry film thickness of 15–25 µm.

Excellent bonds are obtained with or without pre-baking, but PUMA Bond 41 will withstand up to 2 hours pre-bake at 194–212° F (90–100° C).

If using PUMA Cure B, mix 100 parts PUMA Bond 41 to 5–8 parts PUMA Cure B (by weight). Using 5 parts of PUMA Cure B for improving environmental resistance and up to 8 parts for achieving bonds to cured rubber. The PUMA Cure B must be added to well stirred PUMA Bond 41 and the mixture stirred for a few minutes. Use within 24 hours or when it has become viscous, gelatinous or excessively hazy.

### Diluents

Although diluents are not necessary, you can dilute it with Methyl Ethyl or MIBK for spraying or dipping.

### Where to Use

PUMA Bond 41 binds castable polyurethane elastomers to a variety of metal and thermoplastic substrates where the curing temperature of the elastomer is 68–194° F (20–90° C).

The ability of PUMA Bond 41 to form dependable bonds between castable polyurethanes and concrete makes the product particularly useful for sprayable or cast coatings in external applications.

For improved environmental resistance bonded components should be either aged at ambient temperatures for several weeks or, if possible, given a post cure at 122–158° F (50–70° C) for several hours. Rollers, wheels, solid tires, wear parts, and cable connectors are suitable application areas.

PUMA Bond 41 and PUMA Cure B may be used for general purpose rotational casting of PU to metals, plastics, and cured rubbers.



## Typical Physical Properties

The following table explains the typical physical properties of PUMA Bond 41.

Property	PUMA Bond 41
Appearance	Pale Yellow
Non-volatile Solids @ 78.8° F (26° C)	18% by weight
Viscosity (Zahn 2 Cup) @ 78.8° F (26° C)	14 seconds
Flash Point (Abel Pensky)	+18° F (-7.78° C)
Specific Gravity @ 78.8° F (26° C)	0.84
Bonding Temperature Range	68–212° F (20–100° C)
Recommended Dry Film Thickness	15–25 $\mu$ m (0.015–0.025 mm)
Environmental Resistance	Oil, water, solvents

## Shelf Life

2 years at 78.8 F (26° C).

## Health & Safety

PUMA Bond 41 is non-toxic with normal handling, but ingestion or prolonged breathing can be harmful. For further information, refer to the Material Safety Data Sheet.

## Flammability/Fire Fighting Precautions

The solvents used in PUMA Bond 41 are flammable. Do not use around an open flame. Store in accordance with local fire laws and regulations. Normal fire safety precautions must be taken.