Attention All Dealers:

Cilbond 41 was not originally designed for the bedliner industry it was designed for the cast molded plastics market. We have discovered through testing here in the US and in Europe that this product works very well for coatings on wood, concrete & steel. The Cilbond 41 can be used by it's self or with the Cilcure B accelerator,. Or Cilbond 41 can also be reduced (See Material Data Sheets) so it can be sprayed through a conventional or gravity feed paint gun. Check your local area for restrictions on spraying flammable paint products you may need to have a regular automotive paint spray booth to apply Cilbond 41 this way. However you must understand that this product is considered a paint product and is considered a flammable product when sprayed. It can however be applied by using a roller or brush as it wont be airborne. All safety precautions should be followed as stated on the MSDS sheets. If you have any questions please give us a call.

Sincerely, Turbo Liner

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A versatile solvent based bonding system designed for low temperature curing polyurethanes, though it will also bond hot cast PU's.

INTRODUCTION TO THE BENEFITS OF CILBOND® 41

CILBOND® 41 is an effective one part system for bonding castable polyurethane elastomers and RIM polyurethanes to a variety of substrates, including mild steel, stainless steel, brass, aluminium, acrylic plastics, ABS, GRP, epoxies and concrete.

The system has been designed to bond polyurethane elastomers curing at temperatures between 20°C and 90°C, though higher temperature curing elastomers, such as **MONOTHANE**, which is cured at 135ºC, also give excellent bonds with **CILBOND® 41**.

When used as a two component adhesive with **CILCURE B**, improved environmental resistance is achieved and the system will bond fusion bonded epoxies, cured elastomers such as NR, CR, PU, etc and it will bond very fast curing polyurethanes, as used in rotational casting systems and some sprayed elastomers.

Furthermore, the water resistance of **CILBOND® 41**+ **Cilcure B** is exceptional. A modified 95º shore A ether TDI prepolymer cured with Ethacure 300 bonded to mild steel will withstand boiling water at 105ºC without loss of adhesion for >200 hrs.

WHERE TO USE CILBOND® 41

For bonding castable polyurethane elastomers to a variety of metals and engineering plastics substrates, where the curing temperature of the elastomer is between 20°C and 90°C.

The ability of **CILBOND® 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 50 - 70°C for several hours. Rollers, wheels and solid tyres, wear parts, cable connectors, are all suitable application areas. If the environmental conditions are severe, such as continuous water immersion, then **CILBOND® 41** and **CILCURE B** is preferred.

CILBOND® 41 and **CILCURE B** is highly recommended for high performance rotational casting of PU to metals, plastics, PVC and even cured rubbers. This 2 part system can also be the first choice for bonding PU's to concrete and fusion bonded epoxy coatings.

END USE APPLICATIONS OF CILBOND® 41

Rollers for the paper, metal decorating and textile industries, solid tyres, carriage wheels, dunnage, pipe linings and pipe coating.

METAL SURFACE PREPARATION

CILBOND® 41 MUST be applied to carefully prepared surfaces for it to be effective. Surfaces should ideally be gritblasted with clean, filtered (200 - 400 micron sharp alumina or steel grit) and solvent degreased. Alternatively, surfaces may be phosphated using well established procedures.

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Certificate Number FM14754

HOW TO APPLY CILBOND® 41

Stirring - Stir well before use and occasionally during use, using any metallic hand held or mechanical stirrer. Always stir well after dilution.

Brushing - Application by brushing is normally undertaken without further dilution, but for coating large areas, dilution with 5 - 10% of the diluents shown below, improves flow and speed of application.

Dipping - Dilute to a viscosity of 16 - 24 seconds using a Zahn No 2 cup at 25ºC or 13 - 20 seconds using a Din 4 or Ford 4 Cup at 25ºC using up to 10% of the diluents below. Acetone is recommended if a fast drying coating is required. The CIL recommendation is to add butyl acetate to **CILBOND® 41** at a mix ratio of between 2:1 to 3:2 by weight of **CILBOND® 41**:butyl acetate.

Spraying - Dilute to 16 - 24 seconds on a Zahn No 2 Cup or 13- 20 seconds on a DIN 4 or Ford 4 Cup at 25ºC, using up to 10% of the diluents shown below. If fibrillation (cobwebbing) occurs use more diluent or use more higher boiling solvent. Acetone is not recommended for spraying.

If MEK is used as the sole diluent, beware of chilling of the sprayed metal parts (due to rapid MEK evaporation) and subsequent condensation of water, which may lead to a micro porous film.

The CIL recommendation is to add butyl acetate to **CILBOND® 41** at a mix ratio of 2:1 to 3:2 by weight of **CILBOND® 41**:Butyl acetate.

Roll Application - Dilute to 13 – 20 seconds on a DIN 4 or Ford 4 Cup at 25ºC, for most roller application processes. Dilution with up to 10% of the diluents shown below gives a fast application. Over rolling should be avoided.

Drying - Dry each coat for at least 10 minutes and the final coat for at least 1 hour at a room temperature of 25ºC. At below 20ºC extend the drying time accordingly. Forced drying is not normally required and is not normally recommended, but may be used if care is taken to prevent blistering of the films.

Prebaking - Prebaking is not a requirement of **CILBOND® 41**, though a short prebake of up to 2 hours at 90º - 100ºC does not affect bonding.

Coating Thickness - For general purpose applications a dry coating thickness of ca. 15 micron will give good bonding. For those applications involving dynamic fatigue and/or a severe environment, a dry coating thickness of ≥25 micron is required to achieve best bonding.

Storage - Coated parts may be stored for long periods of time (several weeks) provided they are protected from dust and moisture.

Diluents - Diluents may not be necessary with **CILBOND® 41**, but if a diluent is required, choose from the following:

Min Drying time if used	Diluents	Comments
20 mins	MEK	Recommended as the most versatile diluent for brushing and dipping.
20 mins	Acetone	Only for dipping, can cause severe metal chilling
35 mins	MIBK	
45 mins	Butyl acetate	First recommendation for spraying
>> 1 hr ideally	Glycol ether acetates	reduces fibrillation on spraying, but drying times
> 4 hrs	including PMA (MPA)	are extended to several hours.

Always stir the **CILBOND® 41** whilst adding any diluent.

Casting the PU - Cast the PU following recommendations from the PU supplier. Allow bonds to develop for >24 hrs before applying any stress or immersion in any fluid.

HOW TO APPLY CILBOND® 41 + CILCURE B

This 2 part system is used for special applications.

CILBOND® 41:CILCURE B, MIX RATIO, WT:WT and recommendations for use	
100:5	**100:8**
Rotational casting Improved environmental resistance	Bonding to cured rubbers Post vulcanisation bonding

The **CILCURE B** must be added to well stirred **CILBOND® 41** and the mixture stirred gently for a few minutes. Stand for 10 - 15 minutes and stir again before use. Keep mixture covered when not in use and use the mixture within 8 hours, or within the working day. Do not use the mixture once it becomes viscous or gelatinous.

The details on how to apply **CILBOND® 41** and **CILCURE B** are basically the same as for **CILBOND® 41**, except that coated parts should be coated with the PU within 24-30 hours of coating with the **CILBOND® 41** + **CILCURE B**. In most cases it is quite feasible to cast the PU once the coating has been dried for 20 minutes, unless higher boiling solvents have been used when the drying time must be extended.

CLEANING OF EQUIPMENT

Dried films of **CILBOND® 41** will clean off equipment using acetone, MEK, MIBK. When using **CILBOND® 41** with **CILCURE B,** dried films will initially dissolve in the same solvents, but cured films may be difficult to remove unless methylene chloride or other aggressive solvents are employed.

TYPICAL PHYSICAL PROPERTIES

Appearance	Hazy Colourless to Pale Yellow Liquid
Viscosity (No 3 Zahn Cup), 26ºC	14 secs
Non-Volatile Solids	18% by weight
Specific Gravity, 26°C	0.84
Flash Point (Abel Pensky)	-8°C
Recommended dry film thickness	15 - 25 micron
Bonding Temperature Range	20 - 100°C
Environmental Resistance	Oil, water, solvents
Typical Coverage	15 m²/L

SHELF LIFE

24 months at 26°C.

PACKAGING

CILBOND® 41 is supplied in 10L, 25L and 200L containers.