

Description

Plexus® PU2105 is a high strength two-part structural polyurethane adhesive that forms rigid connections with a variety of substrates. It is designed for bonding composites, (FRP, epoxy, etc.) thermoplastics, metals, wood, concrete, and cement. Combined at a 1:1 ratio, PU2105 has a working time of 3 to 5 minutes. The product has low exotherm and no odor. This product offers a combination of high strength and stiffness as well as the ability to bond a wide range of materials. Plexus PU2105 is supplied in ready-to-use and 400-ml cartridges, or 40-gallon (150-liter) drums to be dispensed as a non-sagging gel.

Typical Properties*

Mix ratio by weight	100:159
Mix ratio by volume	1:1
Adhesive Part A density, g/ml	1.23
Hardener Part B density, g/ml	1.95
Mixed density, g/ml	1.57
Adhesive Part A viscosity(92#, 20rpm, 25°C), cps	74,000
Adhesive Part B viscosity(92#, 20rpm, 25°C), cps	68,000
Working time(25°C), mins	3-4
Handling time to reach 50 psi / 1 MPa (20°C), Mins.	40-50
Curing time to reach 500 psi 3.5 MPa (20°C), Mins.	115
Time to reach Max Exo Temp. (10 gm, 75F/24C), Mins.	6.5
Typical Exo. Peak Temp. (10 gm, 75F/24C), F/C	140 / 60
Curing time to be sandable	60-70
Lap Shear on Al 6061, MPa / PSI	10.0 / 1,450 (CF)
T-peel strength on Al 3003, N/mm / PLI	10.5 / 60 (CF)
Tensile strength, MPa / PSI	28 / 4,060
Elongation at break, %	5
Hardness, shore D/A	70 / NA
Shelf Life	6

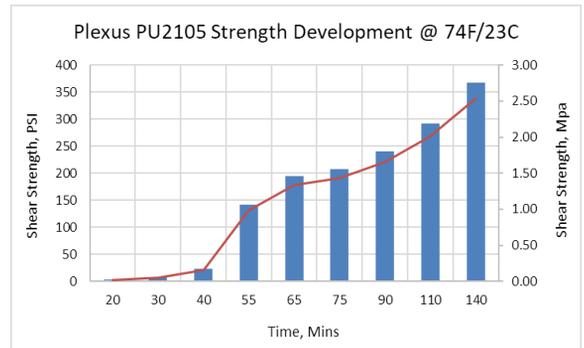
Features & Benefits

Consistent Cure Speeds – low exotherm cure making it less effected by bond line gap tolerances

Environmental Resistance – Excellent weathering resistance against humidity and salt spray

Non Sag – remains in position when applied on vertical or overhead surfaces

Low Print - low exotherm cure allows for less temperature impact on bonded substrates along with low shrink properties.



*Data represents good faith obtained ranges and is not for use for specification purposes.
CF – Cohesive failure

Recommended for:

- Wood
- Painted Metals
- FRP
- Ceramics
- Steel, Carbon*
- PVC
- Polyesters (including DCPD modified)
- Aluminum*
- Steel, Stainless*
- Styrenics
- Urethanes (general)
- Vinyl Esters
- SMC (abraded)

* **Plexus Primer** Suggested for long term environmental resistance⁷

Application

Surface Preparation - Surfaces should be free of grease, dirt and other contaminants. For plastics and metals, clean the surface with a dry rag or a dampened with solvent. Composites may require light abrasion to remove mold releases, then wiped to remove dust. Other surfaces should be wiped clean with a lint-free cloth prior to adhesive application.

Mixing – For Bulk, mix with the recommended curative at a 1:1 ratio, by volume. Cartridges will automatically dispense the correct ratio of each component. Use the recommended Sulzer Mixpac pneumatic dispenser and mix nozzle.

Continued on page 2

PU2105

Application Continued:

Applying - Apply adhesive using handheld cartridges or automatic meter/mix/dispense equipment.

Handheld Cartridges (pneumatic applicator gun recommended):

- Load the cartridge into the dispenser and remove the end caps.
- Attach mixing tip and expel a mixer's length of adhesive.
- Apply adhesive to substrate and mate the parts within the working time of the adhesive. Fix in position until adhesive reaches handling strength.

Meter/Mix/Dispense Equipment: Contact your ITW Representative for assistance.

Curing – This two component adhesive will typically cure to full strength in 24 hours or less at 75°F (24°C), and depending on the curative used.

Clean-up – Clean equipment and tools prior to the adhesive cure with organic solvents such as acetone or MEK. Do not use alcohol. Once adhesive is cured..

Shelf Life & Recommended Storage

This product is moisture sensitive. Shelf life of each component is six months when stored in a clean, dry environment at 65-85°F (18-30°C) in original, unopened container. After opening, protect adhesive from excessive exposure to moisture by installing desiccant cartridges and/or using dry nitrogen as an inert cover.

Precautionary Usage Information

ITW Recommends to follow safe practices for handling its products. Before using this or any ITW product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions. These can be located at www.itwpp.com

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household or janitorial applications. Not for consumer use.

DISCLAIMERS

The Data stated here are typical values and offered in good faith. Given the variety of factors that can affect the use and performance of an ITW PP product, the end user is solely responsible for evaluating any ITW PP product and determining whether it is fit for a particular purpose and suitable for user's design, production, and final application.

EXCLUSION OF WARRANTIES: AS TO THE HEREIN DESCRIBED MATERIALS AND TEST RESULTS, THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ITW PP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SINCE THE USE OF THE HEREIN DESCRIBED INVOLVES MANY VARIABLES IN METHODS OF APPLICATION, DESIGN, HANDLING, AND/OR USE, THE USER, IN ACCEPTING AND USING THESE MATERIALS, ASSUMES ALL RESPONSIBILITY FOR THE END RESULT. ITW PP SHALL NOT OTHERWISE BE LIABLE FOR LOSS OF DAMAGES, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL, REGARDLESS OF THE LEGAL THEORY ASSERTED, INCLUDING NEGLIGENCE, WARRANTY, OR STRICT LIABILITY.

ITWPP provides valuable assistance with our adhesives. Our team works in collaboration with our customers to increase the value of their products and innovations. We are focused on providing solutions for our customers worldwide

ITW Performance Polymers (ITW PP)

30 Endicott Street

Danvers, MA 01923 USA

TEL: 855-489-7262

FAX: 978-774-0516

e-mail: plexusinfo@itwpp.com