

IsoBond HM N1105

IsoBond HM N1105 is a one-component reactive hot melt adhesive that combines quick initial bond strength that continues to develop strength after application in the presence of atmospheric moisture. It reaches 50% of its final hardness within 10 minutes. IsoBond HM N1105 cures into a cross-linked inert structure providing exceptionally high adhesion on a wide variety of substrates while also maintaining superior resistance to extreme temperatures and chemicals. It provides structural bonds on wood products and has mechanical strength meeting or exceeding many commonly used plastics such as acrylic, ABS, and FRP. IsoBond HM N1105 has an excellent initial bond, dramatically reducing downtime for a more efficient and productive manufacturing process. Ideal results are obtained when one of the surfaces adhered is permeable to humidity. Impermeable surfaces may require pre-misting to allow thorough curing of the adhesive. Plastics that may have mold release on the surface should be wiped with isopropyl alcohol and allowed to dry before application of IsoBond HM N1105. Once set, the material can only be removed by mechanical means and it should not be removed by burning.

APPLICATIONS

- Multi-component Construction
- Point of Purchase Displays
- Wood & Furniture Assembly

PRODUCT ADVANTAGES

- Excellent initial and final bond
- High-strength bonds resistant to temperature extremes and chemicals
- One-component eliminates mixing for less waste
- Promotes adhesion on wide variety of substrates
- Solvent-free to meet stringent environmental regulations

RECOMMENDED HANDLING INSTRUCTIONS

Isotec® International's Recommended Application and Handling Instructions

- Use only in well-ventilated areas.
- Wear chemically resistant rubber gloves, safety glasses, and an apron.
- Avoid prolonged or repeated contact with skin.
- In case of skin contact, wipe affected area with isopropyl alcohol, followed by soap and water.
- In case of eye contact, flush eyes with water for 15 minutes and consult a physician.
- If swallowed or comes into contact with eyes, seek medical attention immediately.

- Surfaces should be clean and dry before applying PUR hot melt
- Clean plastic surfaces with isopropyl alcohol before gluing to remove any mold release, oil, or plasticizer contamination.
- Clean rubber, aluminum, and glass with MEK before gluing.
- Mechanical sanding of surfaces can improve PUR adhesion beyond the typical values indicated in this document.
- PURs perform well as a thin film of 1/8" thickness or less, 5 mils is adequate.
- PURs require moisture to fully cure. Optimal bonding occurs when one surface reacts with the urethane or is porous to humidity. Wood, cardboard, and natural fabrics react with the urethane, while most plastics block moisture.

*Values given are not intended to be used in specific preparation

Component Properties

Viscosity - ASTM-D-2196 - 114°C, ISO	11400 cps
% Solids	100 %

Reactivity Profile

Open Time - 1/8 inch Normal	1.45 Minutes
Set Time - Wooden Block - Normal	1.5 Minutes
Open Time - ASTM D4497 - 20 mil	1.5 Minutes
Open Time - ASTM D4497 - 4 Mil	1.15 Minutes

Typical Physical Properties

Lap Shear ABS - ASTM D1002	832 psi
Lap Shear Acrylic - ASTM D1002	746 psi
Lap Shear Aluminum - ASTM D1002	301 psi
Lap Shear Maple - ASTM D1002	701 psi
Lap Shear SMC - ASTM D1002	505 psi
Hardness - ASTM D2240 - Shore D	48 Shore D
Tear Strength - ASTM D624, Die C	520 pli
Tensile Modulus - ASTM D412	26,400 psi
Tensile Strength - ASTM D412	2,926 psi
Elongation - ASTM D412	668 %

- Hot melts aren't suitable for nonporous materials with large surface areas. These include plastic on plastic, plastics to metal, and glass to metal.
- Place parts together within the open time of the adhesive, then hold or clamp the parts until the set time passes.
- Final cure time varies with temperature, humidity, and surface porosity.
- Remove excess material after it is waxy, 10 – 60 minutes after application
- Cured PUR is removable by cutting, scraping, or sanding, but not by burning.
- Do not apply or heat PUR above 280 °F. Performance will be degraded.
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STORAGE

Protect from moisture. If the ISO side material is exposed to moisture, including moisture from the air, it will release CO² gas. If placed in a sealed container, this gas can cause a dangerous buildup of pressure potentially resulting in injury or death.

SAFETY

-Refer to the product SDS for all relevant safety information.

Date Modified 4/1/2020

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- THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OR MERCHANTABILITY OR FOR ANY PARTICULAR PURPOSE. While all data presented in Seller's technical data sheet is based on the best information available to Seller and believed correct, such data is not to be construed as a warranty that the product will conform to such specifications. Such technical data sheets are subject to change without notice. Reported laboratory test results of fire redundancy in no way relates to the actual performance under fire conditions. Since all urethane systems are organic, they will burn.
- Reported laboratory test results of the color stability in no way relates to the actual performance upon exposure to light sources. Since all aromatic urethanes experience color degradation upon ultraviolet light exposure, Seller shall not be liable for any damages resulting from ultraviolet light color degradation of any aromatic urethane systems manufactured or sold by Seller.
- The liability of the Seller shall not exceed the purchase price and the Buyer shall not be entitled to nor the Seller be liable for any consequential, incidental, indirect or special damages resulting in any manner from the furnishing of the product.

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