



## **TECHNICAL DATA SHEET**

### **REACTIVE HOT MELT ADHESIVE**

#### **DESCRIPTION**

This patented Hot Melt Moisture Cure product is a one component polyurethane, 100% solids adhesive that is applied as a hot melt. It has characteristics of a pressure sensitive adhesive for 24 hours, but optimal adhesion is achieved between 10 seconds to two minutes after application. This product has aggressive hot tack and cures in the presence of water to a tough, elastomeric film. It works well in bonding various plastics, woods, metals, and glass substrates.

Once cured, the adhesive has the following properties:

- \* Thermal and solvent resistance
- \* Good low temperature flexibility
- \* Excellent abrasion resistance
- \* High modulus/high impact strength

FDA STATUS: A letter is available upon request.

#### **WARNING**

Application temperature **MUST NOT EXCEED** 350 degrees F. Fumes and/or particulates containing excess isocyanates may be generated. See MSDS for more information.

#### **CURING CONDITIONS**

To obtain complete cure, this product should be exposed to temperatures and relative humidity conditions equal to or greater than 77 degrees F and 50% relative humidity. For adhesive film thicknesses 0.020 inches or less, cure typically is complete in 7 days at 77 degrees F and 50% relative humidity. Complete cure of this product will take longer at conditions less than 77 degrees F and 50% relative humidity. Cure rates and completeness of cure will vary with adhesive film thickness and substrate's water permeability. Consult your H.B. Fuller representative for more information.



**TYPICAL PHYSICAL PROPERTIES and GENERAL INFORMATION**

<b>Property</b>	<b>Value</b>
APPLICATION TEMPERATURE	300,325 deg. F
DENSITY	8.41633 lb-mass/gal
SHELF LIFE	270 day
SOLID CONTENT (NON-VOLATILES)	100 percent
STATIC ADHESION FAILURE TEST TEMPERATURE (200 GRAM OVEN PEEL)	334 deg. F
STATIC ADHESION FAILURE TEST TEMPERATURE (500 GRAM OVEN SHEAR)	> 350 deg. F
TENSILE ELONGATION (@73F 2/14 DAY CURE/50% RH)	3,650 percent
TENSILE ELONGATION (@73F W/7 DAY CURE/50% RH)	3,750 percent
TENSILE STRENGTH (@73F W/14 DAY CURE/50% RH)	3,310 lb-f/in <sup>2</sup>
TENSILE STRENGTH (@73F W/7 DAY CURE/50% RH)	3,250 lb-f/in <sup>2</sup>
VISCOSITY (10.5 27/10/350 F)	8,000 - 14,000 cP
VISCOSITY (10.5 @ 325F)	25,000 cP

**APPLICATION & CLEANUP**

This adhesive is designed to be used with platen-type or reservoir-type melters that will dispense adhesive from 5 gallon pails and 55 gallon drums. Consult the equipment manufacturer for cleanup procedures. If the equipment is to be shut down for extended periods of time (greater than 24 hours), we suggest purging the system with NP-2038. Partially used pails or drums should be purged with dry nitrogen and resealed between uses. **WARNING: MOISTURE CONTAINED IN THE AIR OR FROM WET SURROUNDINGS WILL CURE THIS ADHESIVE. CURED ADHESIVE CANNOT BE MELTED AND MAY CAUSE EQUIPMENT DAMAGE.**

This product is designed to have less than a two-fold increase in viscosity over 12 hours at normal application temperature in the absence of moisture.

To clean up spilled adhesive, allow the adhesive to cool to room temperature and scrape off heavy deposits with a putty knife. Any residual film may be wiped clean with a common polyurethane solvent (toluene, MEK). Clean up the adhesive before it cures. Cured material may be cleaned up using urethane silicone cleaning solvent.

To dispose of this adhesive, loosen the lid of the container to allow the adhesive to cure. Then dispose of this adhesive the same as any ordinary hot melt adhesive in compliance with state and local regulations.



**SAFETY**

Use this adhesive in a well ventilated area. Local exhaust ventilation should be provided at the point of application and over the premelting reservoir. Monitor the level of free methylene bisphenyl diisocyanate in the operator's work zone during application. OSHA regulations state that the maximum exposure of the operator should not exceed 20 parts per billion. The time weighted average exposure over an 8 hour period should not exceed 5 parts per billion. Consult the MSDS for more details.

Always wear gloves and long-sleeved garments to minimize the risk of burns and skin sensitization.

Always wear protective eye wear to minimize the risk of eye contact.

Provide a cold water source for burn treatment.

Wear an air supplied respirator when changing the pails or drums to minimize the risk of inhalation of isocyanates.



**LIMITED WARRANTY AND TERMS**

H.B. Fuller Company ("Fuller") warrants that, for a Warranty Period of one year (or the period specified on the applicable Technical Data Sheet, whichever is less) from the date of shipment from Fuller to the Initial Purchaser, that this Fuller product was manufactured in accordance with Fuller's specifications in effect on the date of manufacture. These specifications are available upon request. This Warranty does not cover test data, or any defects, damages or other harms caused to any extent or in any way by failure to follow applicable Fuller instructions, if any, or abuse or misuse of the product.

**WARRANTIES DISCLAIMED** -- THE WARRANTY STATED IN THE PARAGRAPH ABOVE IS IN PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. Fuller EXPRESSLY DISCLAIMS ANY OTHER WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ALTHOUGH Fuller MAY HAVE SUGGESTED THE PRODUCT OR DEVELOPED THE PRODUCT AT THE PURCHASER'S REQUEST, IT IS THE PURCHASER'S RESPONSIBILITY TO TEST AND DETERMINE THE SUITABILITY OF THE PRODUCT FOR THE PURCHASER'S INTENDED USE AND PURPOSE, AND PURCHASER ASSUMES ALL RISK AND LIABILITY WHATSOEVER REGARDING SUCH SUITABILITY.

**LIMITATIONS OF REMEDIES AND DAMAGES** -- FOR ANY VALID CLAIM PRESENTED UNDER THE LIMITED WARRANTY, Fuller WILL REPLACE THE PRODUCT, OR AT ITS OPTION, REFUND THE PURCHASE PRICE. THIS REPLACEMENT/REFUND REMEDY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY AGAINST Fuller. THE PURCHASER AGREES THAT NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO PURCHASER FOR CLAIMS ARISING OUT OF ANY USE OF THE PRODUCT REGARDLESS OF THE LEGAL THEORY (CONTRACT, TORT OR OTHER). IN NO EVENT WILL Fuller BE OBLIGATED TO PAY DAMAGES TO PURCHASER IN ANY AMOUNT EXCEEDING THE PRICE THAT THE PURCHASER PAID FOR THE PRODUCT.

**LIMITATION OF ACTIONS AND VENUE** -- Any claim made or action commenced by Purchaser under Fuller's limited warranty as set forth herein must be brought within one year from the date of shipment from Fuller to the Purchaser. Purchaser agrees that all disputes arising from Fuller's sale of product to Purchaser shall be brought, if at all, in and before a court located in the State of Minnesota, to the exclusion of the courts of any other state.

**CONDITIONAL ACCEPTANCE** -- Fuller's acceptance of Purchaser's order for this product is expressly conditional on Purchaser's assent to terms and conditions set forth herein.

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**ADEQUATE TESTS:** The information contained in this bulletin we believe is correct to the best of our knowledge and tests. The recommendations and suggestions herein are made without guarantee or representation as to results. We recommend that adequate tests be made in your laboratory or plant to determine if this product meets all of your requirements.