



RAPIDEX[®] Reactive Hot Melt Adhesives

OPTIMA[®] NP-2075T

Manufacturer

H.B. Fuller Company
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Product Description

NP-2075T is a 100% solids, single-component polyurethane, reactive hot melt adhesive. This product uses HB Fuller's patented Optima[®] technology (U.S. # 4808255) to produce a bond with aggressive hot tack, which cures in the presence of moisture into a tough, elastomeric film. It works well at bonding various plastic, wood, metal, 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

Performance Standards / Certifications

- WDMA (and HPMA) type-I boil standard (similar to European D4 boil standard)
- Certified for UL[®] 10C 90-minute burn (similar to USB Std 7-2, NFPA 252, CAN4S104)

Application Features

- Very high strength in open state
- 2 min open time in thin film
- Excellent heat stability (<1% increase in viscosity per hour at application temperature)

Typical Physical Properties

Solid Content	100%
Approximate Pounds per Gallon	8.6
Specific Gravity	1.00
Softening point (uncured)	295°F
Tensile Strength @ 77°F (cured)	3000psi
Elongation @ 77°F (cured)	650%
Color	light yellow (opaque)

Application Methods

- Roll-coating
- Ultra-Fine Dispersion (UFD)
- Swirl-Spray
- Slot Die
- Bead Extrusion

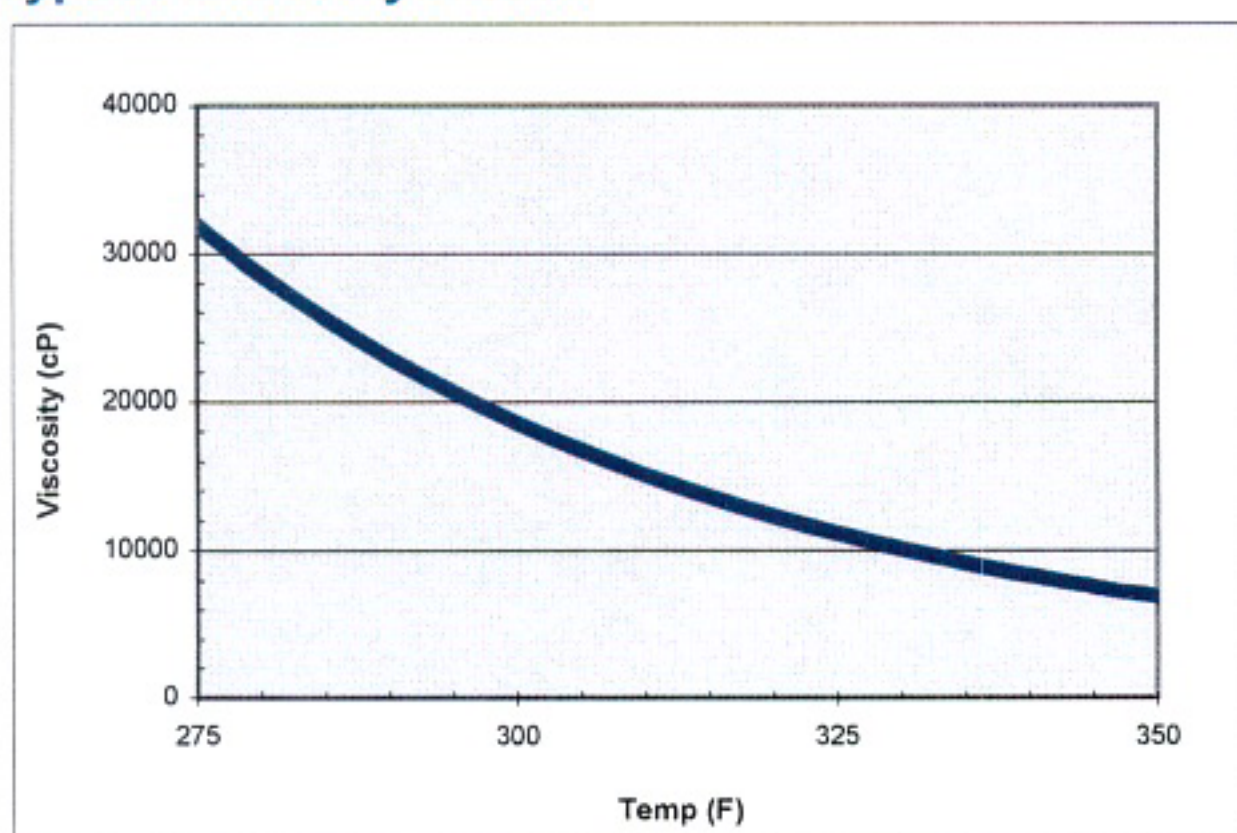
This adhesive is designed to be dispensed with platen or reservoir type melters that will dispense adhesive from 5-gallon (40lb/19kg) pails or 55-gallon (400lb/190kg) drums. Contact your H.B. Fuller representative to help you select the right system for your operation. H.B. Fuller has trained technicians who can help set up and train personnel in the operation of most application equipment.

Typical Application Properties

Dispensing/Unloading Temperature	310 - 345°F
Roll-Coating Application Temperature	285 - 300°F
Film Open Time *	1-2 minutes

* temperature/substrate dependent

Typical Viscosity Profile



(Data collected using Brookfield viscometer/thermocel using a thermocel load of 10.5g, spindle #27, at 10rpm)

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.

H.B. FULLER'S ACCEPTANCE OF ANY ORDERS FOR THIS PRODUCT IS EXPRESSLY CONDITIONAL UPON PURCHASER'S ASSENT TO THE TERMS SHOWN ON THE REVERSE SIDE.

Surface Preparation

Contaminants like oil, dust, corrosion and dirt negatively affect the adhesion of any adhesive. Surfaces must be clean, dry and free from surface contaminants. A surface energy of 36 dynes/cm² or higher is recommended for optimum wet-out.

Curing Conditions

To obtain complete cure, this product should be exposed to temperatures and relative humidity conditions greater than or equal to 77°F and 50% RH. For adhesive film thicknesses 0.020 inches or less, cure is typically completed in 7 days under these conditions. Complete cure will take longer at lower temperatures and lower RH. 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.

Cleanup

To clean spilled adhesive, allow the adhesive to cool to room temperature and scrape off heavy deposits with a putty knife. Any uncured residual film may be wiped clean with common polyurethane solvent (toluene, MEK). Clean the adhesive before it cures. Cured adhesive can only be cleaned with extremely high heat (>800°F) or an aggressive solvent such as heated N-methyl-pyrrolidone.

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Packaging, Stability, and Shelf Life

RAPIDEX[®] reactive hot melt adhesives are packaged and shipped in sealed, straight-sided 55-gallon drums and five-gallon pails. Consult the equipment manufacturer for start-up, shutdown and cleanup procedures. If the equipment is to be shut down for extended periods of time, we suggest purging the system with NP-2038. Partially used pails or drums should be purged with a dry, inert gas and re-sealed between uses. **WARNING: Moisture contained in the air or from wet surroundings will cure this adhesive. Cured adhesive cannot be re-melted and may cause equipment damage.**

At application temperature in the absence of moisture, such as sealed melters and hoses, this adhesive will exhibit an increase in viscosity of less than 1% per hour. For optimal performance with roll-coating applications, H.B. Fuller recommends a consumption rate such that the amount of melted adhesive on the rolls be consumed in under 45 minutes. Adhesive that remains on the rolls for extended periods of downtime (longer than 60 minutes) should be discarded and replaced with fresh adhesive.

In its unopened, original container, this RAPIDEX[®] reactive hot melt adhesive has a shelf life of six months from the date of manufacture, when stored in cool dry conditions.

Disposal

To dispose of this adhesive, loosen the lid of the container to allow the adhesive to cure, then dispose of it compliance with state and local regulations. In most localities, empty pails or drums may be crushed and sent to a local landfill. Since local landfills have the right to refuse any material, check first. Check with the local drum recycler to see if they will accept the empty drums for recycling. Check with local scrapping companies to see if they will accept empty drums or pails as scrap metal. Check the Material Safety Data Sheet for disposal requirements.

Health & Safety Precautions

Severe burns will result if skin contact occurs. Wear appropriate gloves and long sleeve garments to protect from burns and skin sensitization. Wear protective eyewear to minimize the risk of eye contact. If skin contact occurs, immediately immerse contact area in cold, clean water for at least 30 minutes. Cover contacted area with a wet, clean compress, and see a physician immediately.

Use this adhesive in a well-ventilated area. Local exhaust ventilation should be provided at the point of application and over the pre-melting reservoir. Monitor the level of free methylene bisphenyl diisocyanate (MDI) 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 (ppb). The time weighted average exposure over an 8-hour period should not exceed 5ppb. Exceeding the recommended application temperature may increase the levels of airborne MDI. Consult the MSDS for more details.

LIMITED WARRANTY AND TERMS

H.B. FULLER COMPANY

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.

NO INDEMNITIES — Except as expressly stated herein, in no event will Fuller be liable to indemnify or to hold Purchaser harmless against any form of liability.

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.

ARBITRATION — Purchaser agrees that any claim of less than \$100,000 shall be submitted for binding arbitration before a single arbitrator and shall be governed by the rules and procedures of the American Arbitration Association. The arbitrator and the American Arbitration Association shall be paid by the Purchaser.

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.