



Stars Management DMCC

SUBMITTAL

ANDEK 950

(Expandable Urethane Adhesion)

ANDEK 950[™]

Expandable Urethane Adhesive



Description

ANDEK 950 is a single component, moisture curing polyurethane adhesive. It will bond all materials commonly employed in the construction of infrastructure such as bridges, piers, foundations, etc., including steel, masonry, aluminum, wood, etc. ANDEK 950 expands to fill voids and rapidly cures to reach its full strength.

Outstanding Features:

- Saves labor time; requires no mixing, metering or pre-activation
- Remains flexible and allows low temperature movement
- Non-sticky rheology allows better flow properties
- Moisture-cures without catalyst addition
- Allows normal substrate movement to continue without disruption of bond
- Will not become brittle

Specifications:

Adhesive Type	Moisture curing polyurethane
VOC	Zero gms/liter
Pot Life	Single component
Shelf Life	24 months
Recommended Thickness	3 mils wet up to 6 mils dry
Coverage	50 square feet per pound
Packaging	10 pound and 50 pound units
Color	Tan

**Application:**

For pressure injection: All cracks to be treated should be clean and dry. Drill ½" diameter holes 3" deep into all visible cracks at intervals of one per 18" of running crack. Coat 6" lengths of ½" diameter plastic pipe with ANDEK 950 and insert 3" deep into the holes as entry ports. After all entry ports have set, apply ANDEK 950 over the cracks and while still wet, encapsulate a layer of 4" wide Roofab over the crack with a 2nd coat of ANDEK 950. Only one side of the structure should be prepared, with the opposite face or side left untouched. As soon as the ANDEK 950 has thoroughly cured (8-12 hours after the last application), injection may commence. A Grayco 45:1 King or similar equipment with ½" diameter hose and insertion nozzle should be used. Insert bungs into all entry ports except the one that is to be connected to the flow. Begin at the lowest entry port and progress systematically upwards, replacing the bungs after each application is complete. Inject ANDEK 950 into each entry port at 100 psi; flow rate will be determined by the extent of the interior cracks. Observation of the opposite face will determine when all interior cracks are filled as ANDEK 950 should begin to appear on the surface. ANDEK 950 will swell upon curing.

When sealing horizontal cracks, ANDEK 950 (low viscosity, Type 'B) is applied into the crack using an applicator bottle with the necessary width of nozzle. Cracks less than 50 mils wide and 250 mils deep. Any dust generated in this process should be vacuumed or blown away. Voids in poured screeds may also be treated in a similar manner.

Clean up:

All equipment should be cleaned with xylene before cure takes place.

Limitations:

Avoid humid atmospheres and keep lids tightly closed. Shelf life is limited to 24 months. Clean tools and equipment in xylene or high aromatic naphthas.

Precautions:

It is recommended that standard safety equipment, such as masks, goggles and chemical splash goggles be worn while handling this product. Use only in well ventilated areas. Avoid inhalation. In case of contact with skin or eyes flush with water for 15 minutes. For contact with eyes, seek immediate medical attention in addition to flushing. Obtain medical attention if swallowed or if symptoms develop from contact or inhalation.

Keep out of reach of children and pets.



Technical Data

Shear Strength	600 lbs psi
Solids Content	100% (B.W.) ; 110% (B.V.)
Peel Strength	35 lbs psi
Flammability	Non-flammable
Weight per gallon	10.2 pounds
Cure Time	10 hours @ 70°F (70% RH)

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MATERIAL SAFETY DATA SHEET
U.S. Department of Labor
Occupational Safety & Health Administration

ANDEK 950

SECTION 1 - IDENTIFIERS

MANUFACTURER: Andek Corporation
TRADE NAME: Andek 950
CHEMICAL FAMILY: Aromatic Isocyanate

SECTION 2 – HAZARD IDENTIFICATION & EMERGENCY OVERVIEW

Emergency Overview: Toxic gases may be given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat or when contents have been contaminated with water. Causes skin and eye irritation and/or burns. May cause allergic skin reaction or skin sensitization. May cause respiratory tract irritation, allergic reaction, or sensitization. Causes severe gastrointestinal damage if swallowed.

Effects of Overexposure:

SKIN: Prolonged or repeated contact may cause skin irritation and/or result in skin sensitization or other allergic response.

EYES: Irritation and redness from direct eye contact.

BREATHING: May cause irritation to upper respiratory tract.

SWALLOWING: May cause gastrointestinal irritation or ulceration. May cause burns of mouth or throat.

SECTION 3 – COMPOSITION

<u>COMPONENT</u>	<u>CAS #</u>	<u>APPROX %</u>	<u>TLV</u>
Diphenylmethane Di-Isocyanate	26447-40-5	80	0.02 ppm
Aromatic Sulfonic Ester	77075-94-9	20	25.0 ppm

KNOWN CARCINOGENS OR MUTAGENS - TYPE & DEFINITION – None known

SECTION 4 – FIRST AID MEASURES

SKIN: Remove contaminated clothing. Wash affected areas thoroughly with soap and water.

EYES: Flush with clean lukewarm water (low pressure) for at least 15 minutes and obtain medical attention immediately.

BREATHING: Remove victim to fresh air. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic.

SWALLOWING: Do NOT induce vomiting. Give 250 ml of milk or water to drink and get immediate medical attention.

SECTION 5 – FIRE & EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): 390°F.

FLAMMABLE LIMITS: Non-flammable.

EXTINGUISHING MEDIA: Dry chemical; carbon dioxide; high expansion chemical foam; water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus should be worn by fire fighters

UNUSUAL FIRE & EXPLOSION HAZARDS: At temperatures greater than 400°F, polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

DECOMPOSITION PRODUCTS: During a fire, MDI vapors and other irritating, highly toxic gasses may be generated by thermal decomposition or combustion.

SECTION 6 – SPILL OR LEAK PROCEDURES

Evacuate non-essential personnel. Ventilate the area. Equip clean-up crew with appropriate protective equipment. Dike or impound spilled material and control further spillage if feasible. Cover spill with sawdust, or other absorbent material; pour liquid decontaminant over spillage, allow to react at least 10 minutes, collect material in open containers, add further amounts of decontamination solution. Remove containers to safe place; cover loosely and allow to stand for 24-48 hours. Wash down area with liquid decontaminant and flush spill area with water. Decontamination solutions: Ammonium hydroxide (0-10%); detergent (2-5%) and balance water; or solution of Union Carbide's Tergitol (TMN-10 (20%) and water (80%).

SECTION 7 – HANDLING & STORAGE

Store in tightly closed containers and protect from moisture and foreign materials. Ideal storage temperature range is 50-81°F. If moisture enters container, pressure can build up which can cause a sealed container to pressurize and burst.

SECTION 8 – PERSONAL PROTECTION/EXPOSURE CONTROLS

RESPIRATORY PROTECTION (SPECIFY TYPE): Use an air-supplied respirator in confined areas and whenever the material is sprayed.

EYE PROTECTION: Safety glasses with side shields, splash goggles or face shield. Contact lenses should not be worn.

SKIN PROTECTION: Chemical resistant gloves.

OTHER PROTECTIVE EQUIPMENT: Safety showers and eyewash stations should be available.

PERSONAL HYGIENE: Wash thoroughly after using this product. Wash contaminated clothing thoroughly before re-use.

SECTION 9 - PHYSICAL DATA

BOILING POINT (F)	312°	SPECIFIC GRAVITY (H ₂ O=1)	1.14
VAPOR PRESSURE	1.4 x 10 ⁻⁴	PERCENT, VOLATILE BY VOLUME	Negligible
VAPOR DENSITY (AIR=1)	8.5	EVAPORATION RATE (N.B.A.=1)	0.2
SOLUBILITY IN WATER	Insoluble	pH (5% SLURRY)	Neutral

APPEARANCE & ODOR - Clear viscous liquid with slight aromatic odor.

SECTION 10 - REACTIVITY DATA

STABILITY: Stable.

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with water, alcohols, amines and strong bases. Material can cause some corrosion to copper alloys and aluminum.

HAZARDOUS DECOMPOSITION PRODUCTS: By heat and fire: CO₂, CO, oxides of nitrogen, traces of HCN and MDI.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Moisture and materials which react with isocyanates. Avoid temperatures over 400°F.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY	Moderate
ACUTE INHALATION TOXICITY	Moderate
ACUTE DERMAL TOXICITY	Slight
SENSITIZATION	Possible
MUTAGENICTY	Negative
CARCINOGENICITY	Not Classifiable

SECTION 12 ECOLOGICAL INFORMATION

BIODEGRADATION	Partial
TOXICITY TO FISH	Minimal
TOXICITY TO AQUATIC INVERTEBRATES	Minimal
TOXICITY TO MICRO ORGANISMS	Minimal
ATMOSPHERIC OXIDATION OF VOLATILES	None
BIOACCUMULATION	Negative
TOXICITY TO PLANTS	Minimal

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incineration is preferred method. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

SECTION 14 – TRANSPORT INFORMATION

PROPER SHIPPING NAME:	Paint
HAZARD CLASS:	None
PACKING GROUP:	N/A
ID#:	N/A
RQ:	N/A
TRANSPORT LABELS REQUIRED: This material is not regulated by the D.O.T.	

SECTION 15 – REGULATORY INFORMATION

See reference data for individual components.



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SECTION 16 – OTHER INFORMATION (HMIS RATING)

Health	2
Flammability	1
Physical Hazard	1
Personal Protection	H

Disclaimer: Andek Corporation (Andek) believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the issue date of this Material Safety Data Sheet (MSDS). However, because the conditions of handling, use, and storage of these materials are beyond Andek's control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials and make no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations contained in this MSDS are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and data and to comply with all applicable international, federal, state, and local laws and regulations.



PROJECT REFERENCES

	PROJECT	LOCATION	ANDEK PRODUCT USED
	U.S. Naval Research Lab	Washington DC	Polaroof NW
	Reagan National Control Tower	Reagan National Airport, Washington, DC	Polaroof AC, Wearcoat 66
	Arch Street Presbyterian Church	Philadelphia, PA	Polaprime 21, Polaroof AC
	Trump Building Wall Street (Metal roof)	New York, NY	Polaprime 21, Polaroof AC
	PA DOT-Interstate 476	Pennsylvania	Polagard AG
	McDonnell Douglas (Boeing Aerospace)	New Jersey	Polaroof RAC



John F Kennedy Airport

New York, NY

Polaroof SP, Flashband



LaGuardia Airport

New York, NY

Polaroof SP, Flashband



Throgs Neck Bridge

New York, NY

Roofdx Super, Roofab



Los Angeles Int'l Airport

Los Angeles, CA

Polaroof RAC, Roofab, Polaroof SP



PSE&G Nuclear Power Station

Salem, NJ

Andek 950, Wearcoat 66



Philadelphia Park Horse Stables

Philadelphia, PA

Polaprime 21, Polaroof AC



U.S. Air Force Airlift Command

Dover AFB, DE

Polaroof AC



U.S. Navy (Military Sealift
Command)

Norfolk, VA

Polaroof SP



Walt Disney World

Orlando, FL

Roofdx Super, Polarof RAC, Roofab, Polarof AC, Polarof NW, Clearcoat 44



The Moshulu

Philadelphia, PA

Polaprime 21, Roofab, Polarof RAC



Interstate 78

Pennsylvania

Polagard AG



Veteran's Administration Hospitals

Delaware & Palo Alto, CA

Polarof RAC, Polarof SP



Jazzland Amusement Park

New Orleans, LA

Polagard AG



NASA Goddard Space Flight Center

Greenbelt, MD

Polarof RAC, Roofab



National Institutes of Health

Bethesda, MD

Cocoon 560, Cocoon Vinyl Bond B



Harrah's Casino

Atlantic City, NJ

Polaroof AC, Roofdx Copper



General Electric

Burkeville, AL

Cocoon 560, Cocoon Vinyl Bond B



Baltimore/Washington Int'l Airport

BWI Airport, MD

Polaroof NW



U.S. Department of State

Overseas Embassies

Rubberkote 1047



Princeton University

Princeton, NJ

Polaroof AC, Polaroof NW,
Wearcoat 44, Roofab



U.S. Army Corps of Engineers

Hungry Horse, MT &
Johnson Atoll

Polajoint



Dupont Corp

Richmond, VA

Polafloor PUR, Wearcoat 44,
Polafloor Epoxy Topping



Lucy the Elephant

Margate, NJ

Polaroof AC, Polaprime 21



Maryland DOT

Chesapeake House
Service Center

Polaroof AC, AIM #3



Philadelphia City Hall

Philadelphia, PA

Roofdx Super



Pfizer Pharmaceutical

Philadelphia, PA

Polafloor PUR



Philadelphia Naval Shipyard

Philadelphia, PA

Polaroof AC, Polaroof NW,
Wearcoat 44, Roofab



University of Texas

Austin, TX

Clearcoat 44



Delaware DOT

Harrington, DE

Polaroof NW



The Ritz Carlton Resort & Golf
Club

Bradenton, FL

Andek Firegard



Pennsylvania State University
Wiley Lab

State Park, PA

Cocoon 560, Cocoon Vinyl Bond B



Hershey Park

Hershey, PA

Polafloor Colorcoat



National Italian Foundation HQ

Washington D.C.

Polagard Fibrelastic



Independence Blue Cross/Blue Shield HQ

Philadelphia, PA

Roofdx Super, Polafloor PUR



U.S. Navy - Military Sealift Command

Norfolk, VA

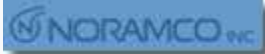
Polaroof SP

Picatinny

U.S. Army

Picatinny Arsenal, NJ

Polajoint Super



Noramco Pharmaceuticals

Wilmington, DE

Polaprime 21, Polaroof NW, Clearcoat 44



U.S. Coast Guard

Cape May, NJ

Polaroof SP, Polaroof RAC, Roofab



Bank of America

Baltimore, MD

Polaprime 21, Roofdx Super, Polaroof RAC, Roofab



Blue Cross/ Blue Shield

Columbia, SC

Polagard AG



Osiris Therapeutics

Columbia, MD

Cocoon 560, Cocoon Vinyl Bond B



Delaware "Smoke House" Fire
Training Facility

Polaprime 21, Wearcoat 44



Kentucky Horse Park-Central
Show Arena Facility

Lexington, KY

Polaprime 21, Polarof NW



Triborough Bridge & Tunnel
Authority

New York, NY

Roofdx Super, Roofab, Silver Film



Druid Hill Recreation Center

Baltimore, MD

Wearcoat 44