



Stars Management DMCC

**SUBMITTAL
ANDEK
FLASHBAND**

FLASHBAND™

Self-Adhesive Flashing



FLASHBAND is a self-adhesive, aluminum faced bitumen backed sealing strip. It is a quick, efficient and cost effective method of flashing, sealing, and repair that produces a lasting protection in all climates.

FLASHBAND bonds to a wide range of building materials and provides a permanent watertight seal that improves with time. It is safe in use and can be applied by hand, unlike traditional flashings, which require special equipment for cutting, forming and fixing.

FLASHBAND consists of aluminum foil, coated with a layer of self-adhesive bituminous mastic of approximately 1.3 mm thickness, and supplied in rolls interleaved with release paper.

OUTSTANDING FEATURES

- __ Bonds to a wide range of substrates
- __ Provides an instant seal
- __ Easily applied by hand pressure only
- __ No special equipment required for cutting, forming or fixing
- __ Available in 2 finishes, Bright Aluminum & Graphite Gray
- __ Can be overlapped
- __ Available in widths ranging from 2" to 28"

USES

FLASHBAND may be used to flash felted, mastic asphalt and other bituminous roofing treatments; asbestos cement, concrete & slated roofs; aluminum and galvanized sheeted roofs; parapet walls, upstands & soakers; joints between brickwork and timber studding prior to tile hanging. FLASHBAND may be used to repair lead flashings, felt roofs, asbestos cement sheets, and cracked roof tiles and slates. FLASHBAND seals glazing bars and roof lights in greenhouses, conservatories, and general roofing work, around projections through roofs (cold pipes, roof lights, extractor vents), and as a protective wrapping of insulation covered pipes and tanks.

PRECAUTIONS

FLASHBAND is without hazard in storage or when properly used, except that cuts could be sustained from careless handling of the release paper.

SURFACE PREPARATION

Clean all surfaces to remove grease

or loose debris. If the surface is porous or has a rough or uneven profile, apply FLASHBAND primer before fixing the flashing strip. Porous surfaces should be slightly dampened with water before priming.

APPLICATION

Apply FLASHBAND primer with a water dampened paintbrush to a line slightly in advance of where the FLASHBAND is to be applied. Work neatly and avoid splashes. Allow the primer to dry, with protection from rainfall and frost if necessary. Surfaces such as mineralized felt or textured brick may require 2 coats, the 2nd when the 1st has dried. To avoid any creasing when unrolling FLASHBAND, separate the FLASHBAND from the release paper, holding the latter firmly against the roll; unroll the required length of FLASHBAND; temporarily replace the release paper, then cut both strips to the required length. Remove the release paper, place the FLASHBAND in position and press onto the dry surface. Smooth into position with a hand roller or a rounded piece of wood.

SPECIFICATIONS	
Pot Life:	Not applicable
Shelf Life:	6 months
Thickness:	50 mils aluminum; 52 mils gray
Packaging:	Variable widths; 33' long rolls
Color:	Bright Aluminum; Graphite Gray

FLASHBAND

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SPECIAL POINTS

Overlapping: Allow 1 inch for overlaps of FLASHBAND and ensure that they are firmly combined to retain the waterproof qualities.

Cold Weather: In cold weather, application will be made easier by warming the surface of the substrate with a gas torch or flowlamp where it is safe to do so. FLASHBAND cannot reliably be applied where the surface temperature is less than 40° F.

Overpainting: FLASHBAND can be overpainted with conventional decorative paints, though a little staining of the latter may occur at the edges.

Appearance: As with most covering materials supplied in roll form, some batch to batch variation in color of the Graphite Gray FLASHBAND can occur; and if aesthetic appearance is important, users are advised to check that all rolls are of the same color.

Gaps between the surfaces: Gaps greater than 1/8" should be filled prior to the application of FLASHBAND.

Flashing to corrugated sloping surfaces: Cut the corrugated sheets at an angle so that they closely fit to the wall, fix them to the supports in the normal way,

then apply any asphalt-based sealant as a fillet seal to the wavy joint between the wall and the corrugated sheeting. Screw a flat, rigid sheet of a suitable water-resistant material (i.e., marine grade plywood) about 4 to 8 inches wide, depending on the pitch and corrugation of the roof, onto the corrugated surface, allowing it to butt up against the adjoining wall.

FLASHBAND can now be used to flash from the wall onto the flat sheet.

Stepped Profiles: Taking one step at a time, and working from the bottom, lap on the vertical faces by 1 inch.

Joints in Brickwork & Blockwork: To prevent FLASHBAND puncturing during application, surface depressions must be filled prior to its use.

Surfaces Curved in 2 Directions: FLASHBAND must be folded or tailored to fit, and not dressed into or carried around such profiles.

Fillets: The fitting of FLASH-BAND to an internal angle will be made easier and more reliable if the angle is eased by the prior fitting of a timber or cement/sand fillet as appropriate to the location.

RESTRICTIONS

Chemical Attack: FLASHBAND may

embrittle if encased in a cementitious mix. FLASHBAND is not resistant to attack by acidic and alkaline liquors.

Joint Movement Accommodation: Fully bonded FLASHBAND will not accommodate appreciable joint movement. However, for small movements, apply a strip of release paper, 2 inches narrower than the FLASHBAND, along the joint prior to the application of the FLASHBAND. For larger movement, polyethylene foam can be laid proud into the joint so enabling the web of supported FLASHBAND to accept the movement.

Traffic: FLASHBAND is not intended to withstand foot or vehicular traffic.

DISPOSAL

May be disposed of either by landfill topping or by incineration in an authorized incinerator.

STORAGE

Store in a dry place within the temperature range of 40-90°F.

NOTICE: The information presented herein is based on tests and data that Andek Corporation believes to be reliable. It is intended for use by technically qualified personnel at their own discretion and risk. Since conditions of handling and use are beyond our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. Nothing herein is to be construed as a license to operate or a recommendation to infringe any patent.



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

FLASHBAND

SECTION 1 - IDENTIFIERS

MANUFACTURER: Andek Corporation
TRADE NAME: Flashband
CHEMICAL FAMILY: Polyethylene Modified Asphalt/Aluminum

SECTION 2 – HAZARD IDENTIFICATION & EMERGENCY OVERVIEW

Emergency Overview: No significant hazard other than skin cuts from sharp edges during handling.

Effects of Overexposure:

SKIN: Paper cuts may occur from handling edges.

EYES: Sunlight reflection may cause glare..

BREATHING: Highly improbable.

SWALLOWING: May cause choking.

SECTION 3 - COMPOSITION

<u>COMPONENT</u>	<u>CAS #</u>	<u>APPROX %</u>	<u>TLV</u>
Aluminum	7429-90-5	4.0	
Silicone Treated Paper	7440-21-3	6.0	
Ethylene Modified Asphalt	8052-42-4	90.0	

KNOWN CARCINOGENS OR MUTAGENS - TYPE & DEFINITION – None known

SECTION 4 – FIRST AID MEASURES

SKIN: If cut by edges, clean wound thoroughly, disinfect and apply surgical dressing.

EYES: Wash with plenty of water and call a physician.

BREATHING: Seek medical attention.

SWALLOWING: Keep calm and seek immediate medical attention.

SECTION 5 – FIRE & EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): Non flammable

FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA: CO₂

SPECIAL FIRE FIGHTING PROCEDURES: As for asphalt or paper.

UNUSUAL FIRE & EXPLOSION HAZARDS: At high combustion temperatures, the mass will flow, aluminum ignites at 1100°F.

DECOMPOSITION PRODUCTS: Oxides of aluminum, carbon, and silicon.

SECTION 6 – SPILL OR LEAK PROCEDURES

Re-roll and re-use if possible.

SECTION 7 – HANDLING & STORAGE

Stack rolls in a safe and stable manner, according to good warehouse practices.

SECTION 8 – PERSONAL PROTECTION/EXPOSURE CONTROLS

RESPIRATORY PROTECTION (SPECIFY TYPE): Unnecessary.

EYE PROTECTION: Goggles, safety glasses.

SKIN PROTECTION: Cotton gloves.

OTHER PROTECTIVE EQUIPMENT: Coveralls, safety boots and hard hat if necessary.

PERSONAL HYGIENE: Wash thoroughly after use.

SECTION 9 - PHYSICAL DATA

BOILING POINT (F)	N/A	SPECIFIC GRAVITY (H ² O=1)	1.25
VAPOR PRESSURE	N/A	PERCENT, VOLATILE BY	None
VOLUME VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (N.B.A.=1)	N/A
SOLUBILITY IN WATER	Insoluble	pH (5% SLURRY)	7

APPEARANCE & ODOR - Aluminum roll, black mass and paper backing with asphaltic odor.

SECTION 10 - REACTIVITY DATA

STABILITY: Stable.
INCOMPATIBILITY (MATERIALS TO AVOID): None known.
HAZARDOUS DECOMPOSITION PRODUCTS: None known.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY	No Data Available; Not Likely To Be Toxic
ACUTE INHALATION TOXICITY	No Data Available; Not Likely To Be Toxic
ACUTE DERMAL TOXICITY	No Data Available; Not Likely To Be Toxic
SENSITIZATION	No Data Available; Not Likely To Be Toxic
MUTAGENICTY	No Data Available; Not Likely To Be Toxic
CARCINOGENICITY	No Data Available; Not Likely To Be Toxic

SECTION 12 ECOLOGICAL INFORMATION

BIODEGRADATION	No Data Available; Not Likely To Cause Ecological Harm
TOXICITY TO FISH	No Data Available; Not Likely To Cause Ecological Harm
TOXICITY TO AQUATIC INVERTEBRATES	No Data Available; Not Likely To Cause Ecological Harm
TOXICITY TO MICRO ORGANISMS	No Data Available; Not Likely To Cause Ecological Harm
ATMOSPHERIC OXIDATION OF VOLATILES	No Data Available; Not Likely To Cause Ecological Harm
BIOACCUMULATION	No Data Available; Not Likely To Cause Ecological Harm
TOXICITY TO PLANTS	No Data Available; Not Likely To Cause Ecological Harm

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of in according to local, state and federal environmental laws.

SECTION 14 – TRANSPORT INFORMATION

Proper Shipping Name: Caulk
This material is not regulated by the D.O.T.

SECTION 15 – REGULATORY INFORMATION

See reference data for individual components.

SECTION 16 – OTHER INFORMATION (HMIS RATING)

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	E

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.

Bonds instantly to provide a permanent watertight seal that grows stronger over time. Flashband is ideal for new construction, maintenance and repair projects

FEATURES

- Bonds to a wide range of substrates
- Provides an instant seal
- Easily applied by hand pressure only
 - No special equipment required for cutting or forming
 - Available in two finishes, Gray and Bright Aluminum
- * Can be overlapped
- * Available in a wide range of widths

Flashband is a self-adhesive, aluminum faced bituman backed sealing tape. It's a quick, efficient and cost effective method of flashing, sealing and repair that produces a lasting protection in all climates.

Flashband bonds to a wide range of building materials and provides a permanent watertight seal that improves with time. It is safe in use and can be applied

ROOFING

- Seals around chimneys, vents and skylights
- Reinforces and seals joints and penetrations
- Provides a cap seal in tile and slate roofs
- Repairs holes and perforations in metal roofing
- Seals and bridges gaps and seams
- Repairs modified or asphalt built up roofs
- Protects eaves from water intrusion due to ice damming

GLAZING

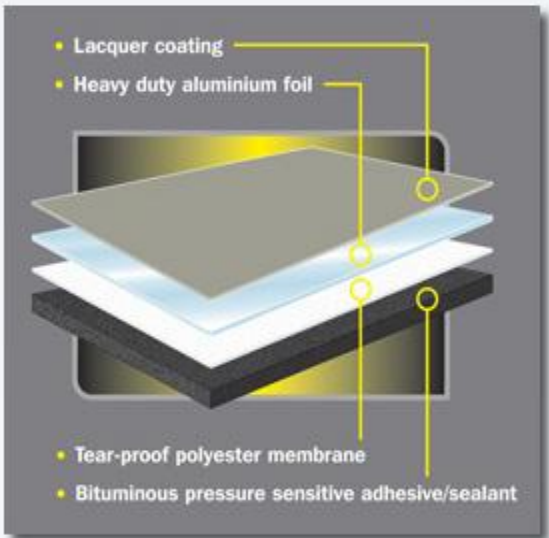
- Protects and seals glazing bars and skylights

DRAINAGE

- Repairs and seals scuppers and down spouts

OTHERS

- Protect insulation, pipes and tanks
- Seals around vents in walls and roofs
- Seals around curbs and HVAC ductwork



The diagram shows a cross-section of the Flashband product, which consists of four distinct layers. From top to bottom, the layers are: a thin, dark gray lacquer coating; a thick, light blue heavy-duty aluminum foil; a white tear-proof polyester membrane; and a dark gray bituminous pressure sensitive adhesive/sealant. Yellow lines with circular endpoints point from text labels to each of these layers.







- Lacquer coating
- Heavy duty aluminium foil
- Tear-proof polyester membrane
- Bituminous pressure sensitive adhesive/sealant

SUPERIOR HEAT RESISTANCE
Flashband's new layered structure and formulation are designed to withstand extreme temperatures

STRONGER MEMBRANE
Flashband's three-ply construction means it is tear and impact resistant. This structure makes it more resilient, stronger and longer lasting to provide it even better watertight seal.



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, Polarroof RAC, Roofab, Polarroof AC, Polarroof NW, Clearcoat 44



The Moshulu

Philadelphia, PA

Polaprime 21, Roofab, Polarroof RAC



Interstate 78

Pennsylvania

Polagard AG



Veteran's Administration Hospitals

Delaware & Palo Alto, CA

Polarroof RAC, Polarroof SP



Jazzland Amusement Park

New Orleans, LA

Polagard AG



NASA Goddard Space Flight Center

Greenbelt, MD

Polarroof 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

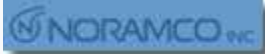
Polaroof SP

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

DSET LABORATORIES

Report No.: 24327-0
Order No.: AE24327
Client Ref. No.: P.O. #387977
Date: November 7, 2007

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TOTAL EMITTANCE TEST REPORT

prepared for:

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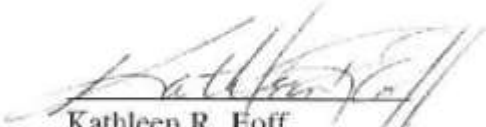
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This report contains 4 pages

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TEST INSTRUMENTS GROUP

- ATLAS MATERIAL TESTING TECHNOLOGY
- ATLAS MATERIAL TESTING TECHNOLOGY GmbH

WEATHERING SERVICES GROUP

- SOUTH FLORIDA TEST SERVICE
- DSET LABORATORIES



ISO/IEC 17025
CERT #717.01

TOTAL EMITTANCE TEST REPORT

1.0 INTRODUCTION

This report presents results of total emittance measurements on nine roofing coating draw downs coded:

Polaroof NW
Polaroof RAC
Silver Film
Wearcoat 66
Wearcoat 44
Andek Firegard
Polaroof SP
Flashband Aluminum
Polaroof AC

2.0 TEST METHODS AND PROCEDURES

Near-Normal Infrared reflectance measurements were performed in accordance with ASTM E408-71 (reapproved 2002), Method A. A Gier Dunkle Instruments Infrared Reflectometer Model DB 100 was utilized for the measurements.

Inside the detector portion are two semi-cylindrical cavities. One of the cavities is heated by an electrical heater and the other stabilizes at approximately room temperature. Thus, the two cavities are maintained at different temperatures. As the cavities rotate, the sample is alternately irradiated at 13 Hz. A vacuum thermocouple views the sample through an optical system that focuses through slits in the ends of the cavities. The detector receives energy emitted by the sample and energy reflected by the sample. Only the reflected energy contains an alternating component as the sample is alternately irradiated by the hot and cold cavities. An amplifier is synchronized with the cavity rotation to pass only the desired alternating signal, which is then rectified and filtered. The zero and gain are set with standards of known emittance. The calibration is rechecked at several intervals during the measurement. The Gier Dunkle Infrared Reflectometer is calibrated using high and low emittance standards. The standards were calibrated at and obtained from the National Physical Laboratory in England. The emittance value for the glass standard equals 0.89. The emittance value for the mirror standard equals 0.01.

TOTAL EMITTANCE TEST REPORT

2.0 TEST METHODS AND PROCEDURES (cont'd)

Near-Normal Emittance for the client's specimens was calculated from Kirchhoff's Relationship where:

$$\rho + \alpha + \tau = 1, \alpha = \varepsilon$$

Since the specimens have no transmittance in the far infrared, the preceding equation reduces to

$$\rho + \varepsilon = 1 \text{ and } 1 - \rho = \varepsilon$$

3.0 OBSERVATIONS, DEVIATIONS, AND WAIVERS

The measurements were performed on the coated side of the specimens. The values reported represent the average of at least four measurements.

ANDEK CORPORATION

Report No.: 24327-0

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Date: November 7, 2007

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TOTAL EMITTANCE TEST REPORT

4.0 RESULTS

<u>Specimen Code</u>	<u>Far IR Reflectance (ρ) Measured</u>	<u>Near Normal Emittance (ϵ) Calculated</u>
Polaroof NW	.07	.93
Polaroof RAC	.41	.59
Silver Film	.57	.43
Wearcoat 66	.08	.92
Wearcoat 44	.07	.93
Andek Firegard	.06	.94
Polaroof SP	.06	.94
Flashband Aluminum	.99	.01
Polaroof AC	.06	.94