



*Stars Management DMCC*

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**SUBMITTAL**

**COCOON 111**  
**(Moisture and Corrosion Seal)**

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# **COCOON 111**<sup>™</sup>

## **Moisture & Corrosion Seal**

**Cocoon 111** Coatings had their origin immediately following World War II, when millions of dollars worth of United States naval warships and airplanes were successfully coated and “mothballed” for future use. Through continuous research and development, its permanent water proofing, gas seal and protective qualities were continually refined to produce maximum versatility and ease of application

COCOON 111 is a strippable coating used for long-term storage of materials and equipment otherwise susceptible to corrosion. With this product, equipment may be stored outdoors, yet be returned back into production within hours.

### **Outstanding Features:**

- Cocoon 111 is applied to a variety of interior backings and exterior surfaces to provide a complete sealing of the area against moisture, corrosion, and dust infiltration
- Will seal out harmful elements to provide positive protection from rust and corrosion
- Eliminates the need for periodic “re-protection” of equipment and materials
- Equipment and materials can be stored on site with the certainty of full protection from changing weather conditions
- Inspection ports may be installed to permit periodic visual inspection of equipment without removing it from storage
- May be used in conjunction with vapor corrosion inhibitors to maintain maximum effectiveness and longevity at equilibrium by restraining vapors to reduce necessity for sublimation
- Extremely low moisture vapor transmission rates substantially reduce any humidity within stored equipment

### **Specifications:**

Coating Type	Polyvinyl chloride solution
VOC	218 grams/liter
Pot Life	Not Applicable (Single Component)
Shelf life	24 months
Recommended Thickness	3 to 5 mils dry film thickness/coat
Coverage	1 gallon per 120 sq ft per coat x 5 coats
Packaging	5-gallon pails
Color	Clear or White



## **Application:**

### **Caution! READ THIS ENTIRE DATA SHEET BEFORE CONTINUING.**

All surfaces must be dry, free of dirt, loose debris, oils, grease, or any substance that could contaminate or weaken the Cocoon. Close all penetrations and openings with a Cocoon Webbing coat. Webbing solution is made by mixing 1 part Webbing Agent to 3 parts Cocoon 111 and agitating with an air driven mixer until it becomes a thoroughly mixed, milky white solution. Spray out the webs until a homogenous covering has been achieved. The first application of Cocoon 111 over the webbing coat should be a light rapid pass to provide the webs some strength and prevent them from breaking when the Cocoon coating is applied. For more information concerning the Cocoon Webbing coat, please refer to the Cocoon Webbing Agent data sheet. If vapor corrosion inhibitor or silica gel dessicant is to be used, this should be installed immediately prior to the Cocoon sealing process to conserve as much activity as possible. Mix ½ gallon of Cocoon pigment into a 5 gallon pail of Cocoon 111 and mix thoroughly until all of the color is thoroughly dispersed. Spray apply the pigmented Cocoon 111 using overlapping passes of an air atomized spray gun until 25 dry mils thickness is obtained. Properly applied, the Cocoon coating should be free of any voids or pinholes. Voids and pinholes must be repaired and re-sprayed. For recommendations regarding equipment, contact our Technical Department.

## **Limitations:**

Proper ventilation must be provided during application for effective drying of the coating, and all applicators must wear suitable respirators.

## **Maintenance:**

Damaged areas may be repaired by cleaning the surrounding surface and application of Cocoon 111 as described in the Application section.

## **Precautions:**

Read and understand the M.S.D.S. thoroughly. Make sure that all involved parties are familiar with the M.S.D.S. Cocoon, in its liquid state, is flammable; proper safety precautions against exposure to open flame, sparks, or other sources of ignition must be taken and strict safety rules enforced.

**Keep out of reach of children and pets.**



**Technical Specifications:**

Moisture Vapor Transmission	0.04 perms	ASTM E-96
Tensile Strength	1,350 psi	ASTM D-412
Elongation	250%	ASTM D-412
Flexibility @ Low Temperatures	180 deg. bend @ -35°C	ASTM C-711
Flashpoint	+ 0°F	FTMS 141A (M4293)
Shore "A" Hardness	60	ASTM D-2240
Total Hardness	34% (B.W.) ; 28% (B.V.)	ASTM D-1044
Viscosity	55 ku	ASTM D-446
Arc Resistance (100 milliamperes)	13 seconds	ASTM D-495-48T
Dialect Strength @ 60 cy/s	530 V/ML	ASTM D-149-44
Loss Factor (1000 cy/s, 40% R.H.)	0.44	ASTM D-150-47T
Drying Time	5 minutes per coat	
Cleaning of Equipment	Cocoon Cleaning Solvent	

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

**COCOON 111**

**SECTION 1 - IDENTIFIERS**

MANUFACTURER: Andek Corporation  
TRADE NAME: Cocoon 111

**SECTION 2 – HAZARD IDENTIFICATION & EMERGENCY OVERVIEW**

Emergency Overview: Toxic gases may be given off during burning or thermal decomposition. Closed containers may forcibly rupture under extreme heat.

Effects of Overexposure:

SKIN: Frequent or prolonged contact may irritate and cause dermatitis. Low order toxicity.

EYES: Irritating and will injure eye tissue if not removed promptly; vapors may irritate eyes.

BREATHING: High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches, drowsiness, and dizziness; are anesthetic or narcotic and may have other central nervous system effects.

SWALLOWING: Minimal toxicity. Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchopneumonia or pulmonary edema; no hazards anticipated from ingestion incidental to industrial exposure.

**SECTION 3 - COMPOSITION**

COMPONENT	CAS #	APPROX %	TLV
Toluene	108-88-3	28.0	
Butene Dioc Acid Polymer w/Chloroethene and Ethenyl Acetate	9005-09-8	29.6	
Acetone	67-64-1	42.0	
Vinyl Acetate	108-06-4	0.2	
Methyl Isobutyl Ketone	108-10-1	0.2	

KNOWN CARCINOGENS OR MUTAGENS: Vinyl Acetate – IARC possible carcinogen; 2B

**SECTION 4 – FIRST AID MEASURES**

SKIN: Immediately flush with large amounts of water; use soap if available; remove contaminated clothing, including shoes, after flushing has begun.

EYES: Immediately flush eyes with large amounts of water for at least 15 minutes; get prompt medical attention.

BREATHING: Using proper respiratory protection, immediately remove the affected victim from exposure; administer artificial respiration if breathing has stopped; keep at rest; get prompt medical attention.

SWALLOWING: First aid is not normally required; induce vomiting if large quantity is ingested; call a physician.

**SECTION 5 – FIRE & EXPLOSION HAZARD DATA**

FLASH POINT (METHOD USED): 0°F. TCC

FLAMMABLE LIMITS: None LEL: 3% UEL: 12%

EXTINGUISHING MEDIA: Carbon dioxide or dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Do not use water or soda acid. Use respiratory protection.

UNUSUAL FIRE & EXPLOSION HAZARDS: Explosion limits approximately 3% to 12%. Handle similar to fighting Toluene or Ketone fire

**SECTION 6 – SPILL OR LEAK PROCEDURES**

Clean up immediately. If spill is excessive, ventilate area. No smoking, open flame, sparks, etc.

**SECTION 7 – HANDLING & STORAGE**

Store in cool place in closed containers away from fire hazards. Post NO SMOKING, NO WELDING, NO OPEN FLAME signs in work area.



**SECTION 8 – PERSONAL PROTECTION/EXPOSURE CONTROLS**

RESPIRATORY PROTECTION: Organic vapor respirator or fresh air hood. Ventilate work area properly.  
VENTILATION: Portable explosion proof fans. No smoking, open flame, sparks, or excessive heat.  
PROTECTIVE GLOVES: Not required. Non-static, chemical resistant, if desired.  
EYE PROTECTION: Not required. Goggles or safety glasses, if desired.  
PROTECTIVE CLOTHING: Non-static clothing and shoes.  
WORK/HYGIENIC PRACTICES: Wash with soap and water.

**SECTION 9 - PHYSICAL DATA**

BOILING POINT (F)	149°F	SPECIFIC GRAVITY (H <sub>2</sub> O=1)	.91
VAPOR PRESSURE	N/A	MELTING POINT	N/A
VAPOR DENSITY (AIR=1)	Heavier	EVAPORATION RATE (N.B.A.=1)	4.5
SOLUBILITY IN WATER	Slight	V.O.C.	2.12 lb/gal-254 g/l
APPEARANCE & ODOR	Lacquers, Ketone Solvents (nail polish)		

**SECTION 10 - REACTIVITY DATA**

STABILITY: Stable.  
HAZARDOUS DECOMPOSITION OR BY- PRODUCTS: Unknown. Possibly slight amounts of HCL, carbon dioxide, and some carbon monoxide  
HAZARDOUS POLIMERIZATION: Will not occur.  
CONDITIONS TO AVOID: Keep away from oxidizing agents and open flame when containers are open.  
MATERIALS TO AVOID: Oxidizing agents.

**SECTION 11 – TOXICOLOGICAL INFORMATION**

See reference data for individual components.

**SECTION 12 – ECOLOGICAL INFORMATION**

See reference data for individual components.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

Dispose of in accordance with existing federal, state and local environmental laws.

**SECTION 14 – TRANSPORT INFORMATION**

PROPER SHIPPING NAME: Paint  
HAZARD CLASS: 3  
PACKING GROUP: 2  
ID #: UN 1263  
RQ: None  
TRANSPORT LABELS REQUIRED: Flammable liquid

**SECTION 15 – REGULATORY INFORMATION**

See reference data for individual components.

**SECTION 16 – OTHER INFORMATION (HMIS RATING)**

Health 2  
Flammability 3  
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.

# COCOON USES

## MOTHBALLING

Originally formulated in 1946 by R.M. Hollingshead of Camden, NJ, Cocoon was used to mothball ships and aircraft after World War II. Many of the mothballed aircraft were stripped of Cocoon and used again in the Korean War. The mothballed ships that have not been scrapped, remain intact after over 60 years of exposure to all weather conditions in shipyards all over the country.

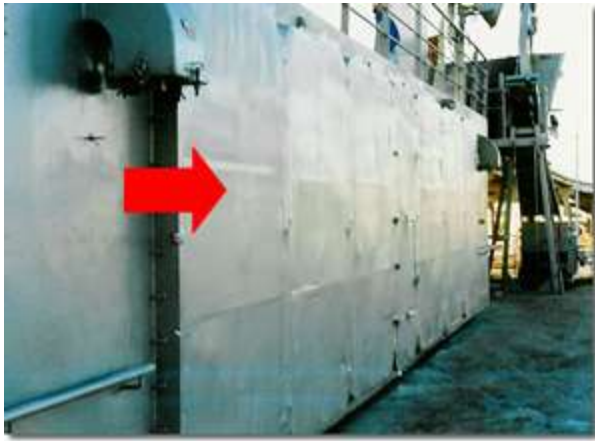
Cocoon sprayable vinyl plastic coating will conform to the contour of any surface to provide a tough, flexible monolithic seal. This hermetic seal is possible due to Cocoon's unique ability to bridge openings.



Preparing a grid of paper masking tape before mothballing.



An open hatchway area is closed in with Cocoon.



A close up of the same wall.



A funnel is sealed with Cocoon.



Enclosing a deck-mounted rocket launcher.  
This tubular steel framework is being sealed  
with Cocoon.



Finished product is tested under 3  
inches of negative water column. It  
held for the 8 hour test.



## VERSATILITY

Cocoon is an extremely versatile sprayable vinyl plastic coating. Sunlight, rain, wind and marine atmosphere have little or no effect on Cocoon. Cocoon coatings prevent water and moisture vapor penetration and protects walls, both interior and exterior, from structural damage brought about by the presence of excessive moisture.

Because Cocoon is a true PVC, it also has excellent chemical resistance. Cocoon coatings resist a wider range of chemicals than any other single generic type coating. The outstanding advantage of Cocoon is the ease of maintenance and its longevity.



Cracked plaster walls sealed with light rose tinted Cocoon



Waterproofing of exterior walls for the US Coast Guard.



A hospital Operating Room has Cocoon walls for ease of sterilization.



Chemistry lab floor is sealed to contain any spillage.



Sealed decorative metal dome conforming to multi-faceted surface.



A Catholic church with a fluted roof.



A lighthouse with a metal roof & brick walls with Cocoon.



Applying Cocoon to the Vertical Assembly Building and Launch Control Center - NASA

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Plywood apple storage facility sealed with Cocoon.

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Cocoon coated large swimming pools to reduce state park maintenance costs.



Dolphin show pool coated with tinted Cocoon

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Tabacco fumigrant barn has a leak



Priming and finishing the repair



Smoke testing and a finished product.

## PLENUMS

Cocoon is a permanent positive seal for use in plenums due to its ability to bridge openings and to conform to any surface. Cocoon's tough flexible membrane creates a moisture vapor barrier that is able to maintain specified operating pressures. Cocoon eliminates the necessity of using gaskets, sealants or mortar. The Cocoon applicator is solely responsible for the creation and integrity of the seal.



Webbing a block wall to the underside of a corrugated metal deck.



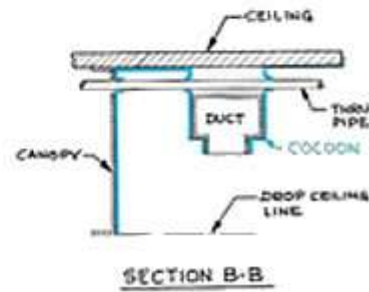
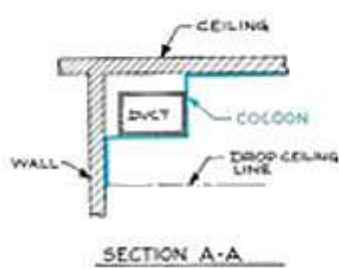
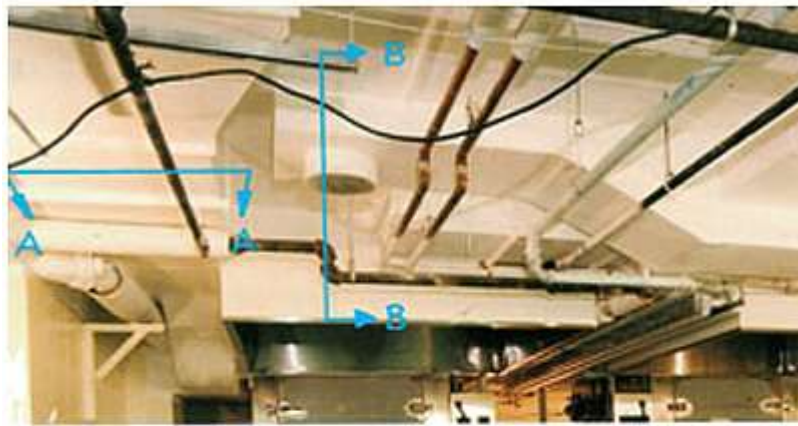
Piping through plenum wall to be sealed.



The same pipes have been masked and webbed in preparation for Cocoon coating.



Sheet metal dust isolation plenum - note pipes



Cocoon's ability to bridge gaps and voids effectively puts pipes and ductwork outside of the cleanable seal. Necessary penetrations into the space can be sealed to prevent cross contamination.

## CLEAN ROOMS

Cocoon is a monolithic finish is extremely washable and is resistant to most chemicals and cleaning agents. Cocoon will not chip, crack or peel due to impact. Should the coating be damaged, repairs can be effected and the seal restored in a matter of minutes. It is available in hospital white or color of your choice through custom color match.



Cocoon conforms to any substrate, even dissimilar surface (block to drywall illustrated on the right)



Surface preparation is very important for a smooth finish.



Priming the walls prior to Cocoon finish coat



Attention to corner detail.



Overlapping Cocoon onto floor ensures a complete seal.



Pharmaceutical manufacturing area.



A dedicated sterile pharmaceutical manufacturing facility.









As illustrated, Cocoon has provided monolithic seals for most major pharmaceutical manufacturerers in plenums, clean rooms, manufacturing areas, aseptic areas, sterile facilities, animal facilities, containment areas and bio-safety areas.

Food or milk processors and brewers have used Cocoon's unique abilities under harsh conditions as a cleanable, long lasting alternative to paint with USDA acceptance.



## 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

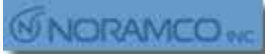
Polaroof SP

**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