

ICT®510-OPS VCI Shrink Film

Technical Data Sheet

ZERUST®/EXCOR® ICT®510-OPS Outdoor Preservation VCI Shrink Film is an 8-mil, high-strength shrink film integrated with ZERUST® Vapor Corrosion Inhibitor (VCI) technology and UV stabilizers, designed specifically for the long-term outdoor preservation of large assets. This premium shrink film offers advanced protection for equipment, vehicles, and components stored outdoors, ensuring superior corrosion and UV radiation resistance, even under extreme environmental conditions.

When heated, the film shrinks to conform tightly around objects, effectively repelling moisture and external contaminants, while the invisible, odorless, and non-toxic ZERUST® VCI molecules saturate the interior of the packaging, protecting hard-to-reach spaces and voids from corrosion. Upon removal from the packaging, the VCI will dissipate from the metal surface, allowing immediate painting, welding, or further processing. Ideal for lay-up and mothballing, the VCI Shrink Film can also be used in large applications by shrinking multiple sheets together to cover structures and machinery. With the use of ZERUST® Outdoor Preservation VCI Shrink Film, protected valuable metal assets are ready to use whenever and wherever needed.

ZERUST® is the inventor of poly VCI technology, and ZERUST® VCI film has proven its performance and safety with thousands of customers worldwide for over 50 years. It is used to protect valuable metal items for manufacturers in industries such as automotive, agricultural, aerospace, and mining. ZERUST®/EXCOR® offers on-site support and service in more than 70 countries via a network of 21 joint venture partnerships. Check with your ZERUST®/EXCOR® representative for a comprehensive corrosion management solution that is most effective for your metal assets.

Typical Properties

Appearance Typical colors are opaque gray and clear.
Substrates Ferrous protection formulation (steel, iron, cast iron, and its alloys). Multimetal and non-ferrous protection are available upon request. Subject to order minimums.

Property	Direction (Machine or Transverse)	ICT®510-OPS VCI Shrink Film*	ASTM Test Method
Film Thickness	-	8 mil (203 µm)	D-6988
Dart Impact Resistance	-	900 g	D-1709
Elmendorf Tear Strength	MD	1802 gf	D-1922
	TD	1957 gf	
Tensile Strength at Break	MD	23.9 MPa (3466 psi)	D-882
	TD	22.5 MPa (3263 psi)	
Elongation at Break	MD	930 %	D-882
	TD	895 %	
Water Vapor Transmission Rate	-	0.03 (g/100 in^2 day) @73°F (23°C), 90% RH	F-1249
Vapor Inhibiting Ability (VIA)	-	Pass	NACE TM0208

* Typical values, not meant to be a specification.

This data sheet provides general guidelines for operation, application, and removal. Please contact your ZERUST®/EXCOR® account representative for more specific recommendations on your particular operation and conditions.

Operating Summary

- Ensure that the equipment to be protected is dry, clean, and at ambient temperature.
- Be sure to have the proper equipment, tools, and heating devices for the job. See **How to Use ZERUST® ICT®510-OPS Outdoor Shrink Film document** for further information.
- Check the integrity of the ICT®510-OPS Shrink Film. The film should appear uniform in color and not be damaged, punctured, or dirty.
- Be cautious to not drag the film on the ground. This causes static electricity that attracts dirt and dust and prevents the shrink film or shrink tape from being welded properly.
- Check for sharp corners and edges. Pad edges with ZERUST® ICT® Open Cell Foam. After shrinking, patch thin spots or tears caused by edges with shrink tape.
- If the equipment will rest on a wooden pallet, cover the pallet with a sheet of ICT®510-OPS

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Film to separate the equipment from direct contact with the wood. Allow ample excess on the base piece of ICT®510-OPS Film to connect with the upper portion of the ICT®510-OPS cover. If necessary, use the shrink tape to secure both sections together before heat shrinking the sections together.

- After you have placed the ICT®510-OPS cover/wrap onto the equipment or item, properly secure all sides, corners, and folds by folding, taping, and pressing the material down. **IMPORTANT NOTE:** When joining sections of the film, i.e., an upper portion to a bottom portion, ensure that the top portion lays over the bottom portion.
- Heat and shrink the ICT®510-OPS Film in this order:
  - Starting at one end, begin applying heat on the bottom of the wrap. Starting at the bottom will allow the heat to rise and cause the top sections to shrink faster.
  - Use a shrink-wrap torch and/or gun to apply heat in steady strokes in a spray paint fashion. Be consistent and careful to keep the heat moving evenly on the surface.
  - After shrinking one area, move to the next until you have completed all areas.
- Use the least amount of heat possible on sharp and pointed areas. The thicker the product is in these areas, the more allowance for better performance over a longer period.
- After the product is completely wrapped, you will need to check for small holes, tears, and or weak thin areas. The most effective method of repairing a hole or weak spot is to use shrink tape. When shrink tape is applied to a hole or used to reinforce over a sharp object, it will need to have a small amount of heat applied to help activate the adhesives in the tape. Applying Shrink tape to these areas is important for keeping contaminants out while keeping the ZERUST® VCI technology in. Inspect and ensure the area is clean and free of debris prior to applying tape for optimal adhesion.

Availability

ZERUST®/EXCOR® ICT®510-OPS VCI Shrink Film is available in stock and has non-stock options and printing, subject to minimum order quantities. ZERUST® ICT®510-OPS VCI Shrink Films are manufactured with at least 10% recycled plastic, helping support environmental compliance requirements and meet global sustainability expectations. Contact your ZERUST®/EXCOR® representative for ordering information.

Part Number	Metal Type	Quantity
100-F-00070	Ferrous	20’ x 100’ x 8 mil Opaque Gray Roll
100-F-00077	Ferrous	40” x 425’ x 8 mil Clear Roll
Accessories		
Part Number	**Quantity**	
250-X-00007	4” x 108’ x 9 mil Gray Preservation Tape (12 Rolls/Case)	
250-X-00008	6” x 108’ x 9 mil Gray Preservation Tape (8 Rolls/Case)	

Protection Info‡

Indoor‡ Opaque gray: Protects clean metals for years‡ when used correctly.
Clear: Protects clean metals for years‡ when used correctly.

Outdoor‡ Opaque gray: Protects clean metals for up to 5 years‡ when used correctly.
Clear: Protects clean metals for up to 2 years‡ when used correctly.

Storage

- Store in a cool, dry place and away from sunlight in the original packaging for up to 3 years from the date of shipment.

Disposal

- Check on options for recycling and incineration.
- Dispose of in accordance with local, national, and international regulations.

Precautions

- Safe for people. This product does not pose a health hazard to users due to its classification as an article according to EU REACH, UN GHS, US OSHA HazCom, CLP, and CA WHMIS regulations.
- Refer to the Safety Data Sheet (SDS) for safety information.

‡ DECLARATION

Corrosion protection claims are based on Northern Technologies International Corporation (NTIC) internal laboratory testing performed under controlled parameters on contaminate-free substrates. Real-world application corrosion protection duration on different substrates will vary and depends on factors such as, but not limited to, the application or use, environmental / storage conditions, surface cleanliness, type of substrates, and coating thickness (where applicable). The use of the term “Up to” in reference to time is defined as any time duration from zero up to a specified time frame, but in no event beyond the specified time frame. The use of the term “for years” is based on NTIC’s experience with its products but is in no way guaranteed. The use of the term “Up to” in reference to volume is defined as any volume from zero up to a specified volume but in no event beyond the specified volume of protection. It is the customer’s / user’s obligation to evaluate product performance, corrosion protection duration, safety, and suitability for intended use within the scope advised in the data sheet and to comply with all applicable laws and regulations. **LIMITED WARRANTY/DISCLAIMER** Warranty is limited to the replacement of a product that fails to meet specifications. For full warranty and disclaimer information, visit www.zerust.com/warranty.

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