

ICT®510C-SMM1 VCI Film

Technical Data Sheet

ZERUST®/EXCOR® ICT®510C-SMM1 VCI Film is a nitrite-free and non-amine formulated product designed to protect complex parts with multiple alloys and large susceptible surfaces, especially in mildly corrosive environments or where metals are prone to flash corrosion. It incorporates ZERUST® Intelligent Counter-Corrosion Technologies (ICT®) that deliver both slow and fast-releasing Vapor Corrosion Inhibitors (VCI), which settle onto exposed metal surfaces within the packaging or enclosure. The film also helps passivate typical levels of corrosion-causing contaminants such as chlorides, nitrates, and sulfides left behind from metalworking processes. After removal from the packaging, the VCI will gradually dissipate from the metal surface, and any remaining trace amounts, at the molecular level, will not interfere with painting, welding, or further processing.

Use ZERUST® VCI Film to protect metal components, machined and cast parts, engines, molds, and more from rust and corrosion for years[‡]. For additional protection, ZERUST® VCI Film may be used with ZERUST® rust inhibitors, preventatives, coatings, or VCI diffuser products. Engineered for a broad range of applications, ICT®510C-SMM1 VCI Film is highly compatible with a range of ferrous and non-ferrous metals, including steel, cast iron, aluminum, brass, and copper. It is also available in various packaging formats, including rolls, sheets, tubing, and bags, ensuring an ideal packaging solution. Whether in work-in-progress, storage, or transit, ZERUST® ICT®510C-SMM1 VCI Film delivers unparalleled performance.

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. 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 green or clear. Additional colors are available upon request. Subject to order minimums.
Substrates General multimetal protection for both ferrous and non-ferrous metals, including steel, cast iron, aluminum, brass, and copper, where there are concerns related to flash corrosion, trace surface contaminants, or storage in challenging environments, including high humidity, elevated temperatures, and acid gas exposure.

Property	Direction (Machine or Transverse)	ICT®510C-SMM1 VCI Film*	ASTM Test Method
Film Thickness	-	4 mil (102 µm)	D-6988
Dart Impact Resistance	-	300 g	D-1709
Elmendorf Tear Strength	MD	1100.8 gf	D-1922
	TD	668.8 gf	
Tensile Strength at Break	MD	21.0 MPa (3045 psi)	D-882
	TD	20.1 MPa (2917 psi)	
Elongation at Break	MD	560 %	D-882
	TD	610 %	
Water Vapor Transmission Rate	-	0.06 (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

- Pack only clean and dry parts.
- Always wear clean and dry gloves when handling the metal parts to protect them from corrosion-causing fingerprints.
- When packing, the temperature of the metal parts should be about the same as the room temperature to avoid condensed moisture.
- Tightly close packages with tape, heat seal, zip ties, or fold over. Insert additional ZERUST® materials (such as ICT®420-35 VCI Kraft Paper) as an interleave for added protection in larger and tightly packed or layered packages.
- Avoid placing metal surfaces in direct contact with wood or cardboard (sources of moisture and acid).

Scan QR for more



**product information
and photos**

Availability

ZERUST®/EXCOR® ICT®510C-SMM1 Film is a made-to-order product available upon request. Contact your ZERUST®/EXCOR® representative for ordering information.

Size ranges (width):

Bags & Tubing:

2" - 125" (flat)

2" - 150" (gusset)

Sheeting:

2" - 26'

Protection Info[‡]

Indoor [‡]	Protects clean metals for years [‡] when used correctly. However, use in high temperatures >140°F (60°C) will reduce protection life expectancy.
Outdoor [‡]	Not recommended

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

- Do not use for outdoor protection.
- The product is nitrite-free. Manufactured on shared equipment that processes nitrites and may contain trace amounts.
- 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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