

ICT®510-C VCI Ferrous Film

Technical Data Sheet

ZERUST®/EXCOR® ICT®510-C VCI Ferrous Film provides cost-effective and targeted protection against rust damage for ferrous metals in shipping, storage, and work-in-progress. ICT®510-C VCI Ferrous Film diffuses invisible, odorless, and non-toxic ZERUST® Vapor Corrosion Inhibitors (VCI) that settle onto exposed metal surfaces inside the packaging or enclosure. Upon removal from the packaging, the VCI will dissipate from the metal surface, allowing immediate painting, welding, or further processing.

Use ZERUST® ICT®510-C VCI Ferrous Film to protect metal components, machined and cast parts, engines, molds, and more from rust for years[‡]. For additional protection in challenging environments, ZERUST® VCI Film may be used with ZERUST® rust inhibitors, preventatives, coatings, or VCI diffuser products. Engineered for a broad range of applications, ICT®510-C VCI Ferrous Film is available in various packaging types, including rolls, sheets, tubing, and bags, ensuring an ideal packaging solution. Custom options such as UV stabilizers, acid-gas blockers, anti-block, slip, and anti-static additives are available to meet specific protection requirements. Whether in storage or transit, ZERUST® ICT®510-C VCI Ferrous 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. 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 yellow, green, or clear. Additional colors are available upon request. Subject to order minimums.
Substrates Ferrous protection formulation (steel, iron, cast iron, and its alloys).

Property	Direction (Machine or Transverse)	ICT®510-C VCI Ferrous Film*				ASTM Test Method
Film Thickness	-	2 mil (51 µm)	3 mil (76 µm)	4 mil (102 µm)	6 mil (153 µm)	D-6988
Dart Impact Resistance	-	150 g	225 g	300 g	450 g	D-1709
Elmendorf Tear Strength	MD	191 gf	287 gf	669 gf	1000 gf	D-1922
	TD	597 gf	773 gf	1101 gf	1600 gf	
Tensile Strength at Break	MD	21.0 MPa (3045 psi)	21.0 MPa (3045 psi)	21.0 MPa (3045 psi)	13.1 MPa (1900 psi)	D-882
	TD	20.1 MPa (2917 psi)	20.1 MPa (2917 psi)	20.1 MPa (2917 psi)	10.6 MPa (1537 psi)	
Elongation at Break	MD	560 %	560 %	560 %	560 %	D-882
	TD	610 %	610 %	610 %	610 %	
Water Vapor Transmission Rate	-	0.12 (g/100 in ² day) @73°F (23°C), 90% RH	0.09 (g/100 in ² day) @73°F (23°C), 90% RH	0.06 (g/100 in ² day) @73°F (23°C), 90% RH	0.04 (g/100 in ² day) @73°F (23°C), 90% RH	F-1249
Vapor Inhibiting Ability (VIA)	-	Pass	Pass	Pass	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. (See reverse side for further Operating Summary details).

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product information
and photos

- 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 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).

Availability

ZERUST®/EXCOR® ICT®510-C VCI Ferrous Film is available in many stock options and has non-stock options, such as UV stabilizers, acid-gas blockers, anti-block, slip, and anti-static additives, subject to minimum order quantities. ZERUST® ICT®510-C VCI Ferrous Films are manufactured with at least 10% recycled plastic, helping support environmental compliance requirements and meet global sustainability expectations. Additionally, ICT®510-C VCI Ferrous Film is also available in a 30% post-consumer recycled (PCR) version. Contact your ZERUST®/EXCOR® representative for ordering information.

Custom 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.

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.
- 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 contaminant-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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