



TECHNICAL DATASHEET

PRODUCT NAME – RUST-X Non VCI Lamina Shrink Film

PRODUCT CODE – Grade: 3 Layer Lamina Film X linked 250 and 200 micron

PRODUCT DESCRIPTION

RUST-X Shrink Film is a specially designed product for the packaging of heavy equipment, armament, pallets, vehicles, automotive parts, engines, wind mills, power plant equipment, chemical plant equipment etc.

RUST-X Shrink Film provides has got multiple features such as abrasion protection, movement restriction, water barrier, UV Stabilized as well as moisture barrier hence providing excellent option for long term preservation.

The film is available as tube, sheet or in the form of 3-D covers to wrap the equipment suiting the size of the equipment or the pallet. The film is very tough and cannot be stretched or punctured easily after shrinking.

Shrink film has excellent protection against UV radiation and the packaging can be stored outdoor for up to 2 years.

The film is available as transparent also for ease of visibility of the part or equipment packed in it.

FEATURES

- Powerful and extremely strong and excellent

pliability to conform to coil configurations

- Multi-metal protection for all surfaces
- High stretch ability
- Sharp edge resistance due to multi-molecular linking for increased strength
- Minimal equipment investment with substantial reduction in labor costs
- Increased production through-put
- Reduces usage cost and associated problems
- Dry packaging compatible product
- Quick to use, remove and easy to recycle

UV PROTECTION

European norm: EN 13206:2001

Film duration: it's determined following the procedure described in the European norm EN13206, exposing plastic film in suitable machines equipped with specific lamps (those lamps irradiate a radiation similar to solar type).

To determine film duration, the adopted criterion only considers material degradation obtained in laboratory through the quick artificial ageing (Weather-o-meter or Wom).

The duration of a covering material is proportional to the period of exposure to the artificial ageing after which mechanical properties are not considered as more sufficient.



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Film classification on the base of artificial accelerated ageing

UV PROTECTION PROPERTIES

Film classification on the base of artificial accelerated ageing

Film Class	Duration (Hours)
N	≥400
A	≥1700
B	≥3200
C	≥4600
D	≥ 6000
E	≥ 7300

Correlation between natural ageing and artificial accelerated ageing (for film PE, EVA and EBA)

Climatic area kLy/Year	Predicted duration of film (years)			
	Exposition to Wom (hours)			
70-100 (North-Europe)	1700	3500	5300	7100
100-130 (Centre-Europe)	2800	5600	8400	
130-160 (South-Europe)	3900	7800		

USAGE

The product to be packed can be wrapped with shrink film and then passed through heating tunnel or subjected to hot air through a gas gun or heated air gun.

The temperature for shrinking tunnel needs to be maintained above 150 C. This does not mean that the product will also reach 150 C. The process increases the temperature of the film and there is hardly any impact on the temperature of the product inside.

Use of gloves while handling the components as well as immediate packaging is important.



PACKAGING AND STORAGE

Store in a cool dry place and always keep film wrapped when not in use.



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TECHNICAL PROPERTIES

Physical Properties	Test Method	Non VCI Lamina Shrink Film	
Colour	Visual	White	White
Thickness Availability	Micrometer	250 microns	200 microns
Specific Gravity	ASTM D 1298	Approx 1	Approx. 1
Surface pH	Universal	8 to 9	8 to 9
Tensile Strength MD	ASTM D882-02 Kg/Cm ²	210	238
TD	Kg/Cm ²	196	224
Elongation at Break	ASTM D882-02		
MD	%	738	900
TD		714	846
Dart Impact Strength	Gf	570	380
Tear Strength			
MD	Mn/mic	36	40
CD	Mn/mic	45	68
PE Content		40-50%	40-50%
VCI Content		NA	NA
Other proprietary blends		30-40%	30-40%
UV protection	Months	12-18 months	12-18 months

APPLICATIONS

- Machinery Packaging
- Steel Coils
- Galvanized sheets and coils
- Metal Tubes and wires
- Electrical grade steel Stainless steel
- Copper and Aluminum sheets
- Wrapping metal bodies, engines, turbines, heavy equipment
- Wrapping castings, forgings, sheet metal
- Wrapping electrical panels, motors

DISPOSAL

Recommendation: Do not allow product to reach sewage system.

Disposal of product or waste must comply with official local regulations.

Packaging that cannot be recycled must be disposed in the same manner as the product.

HEAVY METALS DECLARATION

RUST-X Rust Preventive products do not contain Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr6), Polybrominated biphenyls (PBB), or Polybrominated di-phenylether complying with the restricted substances listed in Article 4(1) of the RoHS Directive. RUST-X Rust Preventive Oils are also REACH Compliant for exports to the European Union.



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SAFETY INFORMATION

- Keep Out Of Reach Of Children
- Keep Container Tightly Closed
- Not For Internal Consumption
- Consult Material Safety Data Sheet For More Information
- 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 and CA WHMIS regulations.
- Changes in the properties of metals. The protective molecules dissipate upon opening of package.

DECLARATION

This Data sheet and information it contains is considered to be accurate at the date of printing. No representation or warranty, expressed or implied is made as to the accuracy or completeness of the data and information contained in this publication. It is the User's obligation to evaluate and use products safely and within the scope advised in the data sheet and to comply with all applicable laws and regulations.

LIMITED WARRANTY

All statements, technical information and recommendations contained herein are based on validations and tests conducted by HI TECH INTERNATIONAL/RUST-X or its partners and are believed to be reliable, but the accuracy or completeness thereof is not guaranteed. We warrant our products will be free from defects when shipped to customer. Our obligation under this warranty shall be limited to replacement of product that proves to be defective. To obtain replacement product under this warranty, the customer must notify Rust-X, Hi Tech International or its partners or agent of the claimed defect within 3 months after shipment of product to customer. Customer shall pay all freight charges for replacement products. We shall have no liability for any injury, loss or damage arising out of the use of or the inability to use the products. And any financial claims

shall be limited to the value of the film sold.

Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. No representation or recommendation not contained herein shall have any force or effect unless in a written document signed by an officer of the company. The foregoing warranty is exclusive and in lieu of all other warranties, express, implied or statutory, including without limitation any implied warranty of merchantability or of fitness for a particular purpose. In no case shall HI TECH INTERNATIONAL/RUST-X be liable for incidental or consequential damages.

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