



## Clean, Effective, Recycled, Environmentally Friendly VCI Packaging

MasterShield VCI paper is a natural kraft saturated with a nitrite-free corrosion inhibitor formulation designed to protect ferrous metals during in-process manufacturing, transport (especially export) and storage without need for surface applied oils or rust protective liquids. Distinctly developed to meet the specific requirements for transporting and storing automotive, heavy equipment and other metals throughout the world, MasterShield papers are excellent for wrapping and protecting steel.

The OEM Approved MasterShield product line of VCI papers offer a range of packaging choices that are safe and easy to use and comply with recognized standards including TRGS615, RoHS, and REACH. MasterShield GFE50 volatile corrosion inhibitor (VCI) paper prevents rust and corrosion on ferrous metals/steel. Made from recycled paper.

## Features



## Proven Daubert Cromwell Corrosion Inhibitor Chemistry

Complete protection of ferrous metals

- Fully recyclable and re-pulpable
- Passes TL8135 - Grade 3. OEM Approved. TRGS 615 and 900 compliant.
- Nitrite-free; amine-free. Contains no heavy metals, phosphates, or secondary amines.
- Non-toxic, safe and easy to use in the workplace; no special handling required.
- Cost effective – made from recycled paper.
- Replaces oil, grease, and traditional corrosion prevention methods.
- Parts remain clean, dry and ready to use immediately.
- Available in rolls, cut sheets, custom sizes.
- Six language print in green ink.
- Compatible with Daubert Cromwell rust preventive liquids, emitters and films.



## Typical Applications



## Transport, export and storage of:

- Fabricated metal components and assemblies, frames, stampings, doors, etc.
- Engines and large machinery
- Bearings, gears, valves and pistons
- Brake parts, automotive parts

To use, wrap or layer clean parts in MasterShield paper. Place within 200-300mm of the metal. The corrosion inhibitors will form a protective molecular layer on the surface of the metal. When the parts are unwrapped, the protective layer immediately begins to dissipate. Parts are clean, corrosion-free and ready to use. No further processing is necessary prior to use.

## MasterShield® Product Family

Product Name	Basis Weight	Construction	Sizes
MasterShield GFE50	49 g/m <sup>2</sup> (30 lb/ream)	Natural Kraft	Rolls, Sheets
MasterShield FE50	49 g/m <sup>2</sup> (30 lb/ream)	Natural Kraft	Rolls, Sheets
MasterShield FE70	65 g/m <sup>2</sup> (40 lb/ream)	Natural Kraft	Rolls, Sheets
MasterShield FE90	81 g/m <sup>2</sup> (50 lb/ream)	Natural Kraft	Rolls, Sheets
MasterShield PFE90	85 g/m <sup>2</sup> (52 lb/ream)	Poly-Coated Kraft	Rolls, Sheets



## Physical Data

Physical Properties*		Typical Values		
	Units	Typical Value		Test Method
Basis Weight	g/m <sup>2</sup> (lb/ream)	49 (30)		T-410
Gauge	µm (mil)	112 (4.4)		T-411
Mullen Burst Strength	kPa (psi)	49.6 (7.2)		T-403
		Machine Direction	Transverse Direction	
Tensile Strength	kN/m (lb/in)	1.17 (6.71)	0.44 (2.54)	T-494
Elongation	%	1.75	5.89	T-494
Elmendorf Tear Strength	N/ply (gf)	0.41 (42.0)	0.47 (48.2)	T-414
Protection Time				
Inside Dry Storage				24 months minimum
Metal	Protection			
Mild Carbon Steel, Cast Iron	Provides full protection in contact and vapor phases.			
Aluminum (1100)	Not recommended <i>Alumitex® recommended</i>			
Zinc or Zinc Galvanized Steel	Not recommended <sup>4</sup> <i>UWMPI, Ferro-Galv, or Uniwrap® 200 recommended</i>			
Copper, Copper Alloys	Not recommended <i>Coppertex® or UWMPI or Uniwrap® 200 recommended</i>			
Bronze, Bronze Alloys	Not recommended <i>Coppertex® or UWMPI or Uniwrap® 200 recommended</i>			
Tin, Tin Plated Steel	Provides Protection			
Category A <sup>2</sup>	Not recommended			
Category B <sup>3</sup>	Not recommended			

1. Brass alloys in the "red area containing up to 20% zinc will act like copper; brass in the "white" area containing over 20% zinc will act like Category A metals.
2. Category A metals include zinc, cadmium, nickel, cadmium-plated steel, and nickel-plated steel. These are prone to contact corrosion sensitivity with inhibitor chemicals, but will be protected as shown in the vapor phase.
3. Category B metals include lead, antimony, Babbitt alloys, solder, magnesium or magnesium alloys.
4. "Not recommended" does not indicate incompatibility. Compatibility testing is always recommended. Our "Not recommended" rating indicates that there may be more effective Daubert Cromwell products for these applications. Your sales representative can help recommend the optimal product for specific applications.

## Storage

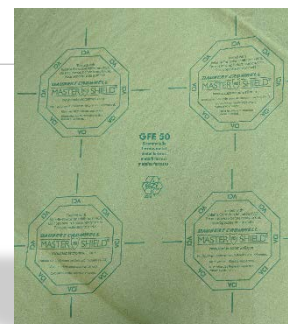
Store in a cool, dry place, away from direct sunlight. Avoid storing outdoors, in high humidity, or at high temperatures.

## Shelf Life

24 months from date of shipping, stored in the original, shipping container used by Daubert Cromwell and not in high humidity and not at high temperatures, or stored outside.

## Approvals

RoHS2, TL 8135, TRGS 615, VW, OEM tested and specified.



**WARRANTY** The data, statements and recommendations in this product specification sheet are based on testing, research and other development work, which has been carefully conducted by us, and we believe such data, statements and recommendations will serve as reliable guidelines. Physical properties shown above represent typical values and are not intended for use in writing specifications. However, this product is subject to numerous uses under varying conditions over which we have no control, and accordingly, we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their particular production conditions and use. All products manufactured by us are warranted to be first class material and free from

defects in material and workmanship. Liability under this warranty is limited to the net purchase price of any such products proven defective or, at our option, to the repair or replacement of said products upon their return to us transportation prepaid. All claims on defective products must be made in writing within 30 days after the receipt of such products in your plant and prior to further processing or combining with other material and products. We make no warranty, express or implied, as to the suitability of any of our products for any particular use, and we shall not be subject to liability from any damages resulting from their use in operations not under our direct control. This warranty is exclusive of all other warranties, express or implied, and no representative of ours or any other person is authorized to assume for us any other liability in connection with the sale of our products.

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