

# Product Data

## Nox-Rust Vapor Wrapper VW60H Military Grade VCI Paper

### Description



Nox-Rust Vapor Wrapper VW60H corrosion inhibitor (VCI) paper is a 60 lb/ream (98 g/m<sup>2</sup>) natural kraft saturated with Daubert Cromwell's proprietary nitrite-free corrosion inhibitor (VCI) formulation for ferrous metals. It is designed and tested to provide long-term protection of ferrous metals in government and military applications. VW60H paper is listed on the U.S. Department of Defense Qualified Products List (QPL) for Mil-PRF-3420H, Class 2, Style A (medium duty, kraft, flat carrier impregnated with corrosion inhibitor). National Stock Number (NSN) 8135-00-664-4012.

### Features



#### ***Proven Daubert Cromwell corrosion inhibitor chemistry***

- U.S. Department of Defense QPL Mil-PRF-3420H, Class 2, Style A
- Nitrite-Free
- Protects steel, cast iron, and ferrous alloys
- Safe and easy to use; no special handling required
- Non-toxic VCI chemistry; no heavy metals, chromates, phosphates, or secondary amines
- Replaces oil, grease, and traditional corrosion prevention methods
- Parts remain clean, dry and ready to use immediately
- Compatible with Daubert Cromwell rust preventive liquids, emitters and films
- Available in rolls, cut sheets, custom sizes
- RoHS compliant; fully recyclable and repulpable

### Typical Applications



#### ***Transport, export, storage of:***

- Fabricated metal components and assemblies
- Aerospace and aviation industry components and equipment
- Firearms, spares, pins, military equipment.
- Assemblies, frames, stampings, etc.
- Bearings, gears, valves and pistons
- Brake parts, automotive parts, military parts.

To use, wrap or layer clean parts in VW60H paper. Place within 12" (200-300mm) of the metal. The corrosion inhibitors 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.



| Military Grade Corrosion Inhibitor Papers |                            |               |                                       |            |
|---|----------------------------|---------------|---------------------------------------|------------|
| Product                                   | Basis Weight               | Construction  | Description                           | Protection |
| 4060                                      | 35 lb/57 g/m <sup>2</sup>  | Natural Kraft | Long-term protection                  | Ferrous    |
| VW60H                                     | 60 lb/98 g/m <sup>2</sup>  | Natural Kraft | Long-term protection.<br>Nitrite-free | Ferrous    |
| 7090                                      | 70 lb/114 g/m <sup>2</sup> | Natural Kraft | Long-term protection                  | Ferrous    |

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# Technical Data

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### Physical Data

| Physical Properties   |                             | Typical Values |             |
|-----------------------|-----------------------------|----------------|-------------|
|                       | Units                       | Typical Value  | Test Method |
| Finished Basis Weight | lb/ream (g/m <sup>2</sup> ) | 70 (113)       | T-410       |
| Caliper (thickness)   | mil (μm)                    | 7 (178)        | T-411       |
| Mullen Burst Strength | psi (kPa)                   | 60 (414)       | T-403       |

|                         |               | Machine Direction | Cross Direction |       |
|-------------------------|---------------|-------------------|-----------------|-------|
| Elmendorf Tear Strength | g/ply (N/ply) | 150 (1.47)        | 145 (1.42)      | T-414 |
| Tensile Strength        | lb/in (kN/m)  | 45 (7.9)          | 20 (3.5)        | T-404 |
| Elongation              | %             | 2                 | 3               | T-494 |

### Protection Time

Inside Dry Storage 24 months minimum

|                                  |   |
|----------------------------------|---|
| Mild Carbon Steel, Cast Iron     | Provides full protection in contact and vapor phases in compliance with Mil-PRF-3420.                       |
| Aluminum (1100)                  | Compatible, light protection in contact and vapor phases.   |
| Zinc or Zinc Galvanized Steel    | Not recommended <sup>4</sup> . May provide light protection. UWMPI or Uniwrap <sup>®</sup> 200 recommended. |
| Copper, Copper Alloys            | Compatible. Coppertex <sup>®</sup> or UWMPI or Uniwrap <sup>®</sup> 200 recommended.                        |
| Brass, Brass Alloys <sup>1</sup> | Compatible. Coppertex <sup>®</sup> or UWMPI or Uniwrap <sup>®</sup> 200 recommended.                        |
| Bronze, Bronze Alloys            | Compatible. Coppertex <sup>®</sup> or UWMPI or Uniwrap <sup>®</sup> 200 recommended.                        |
| Silver                           | Not recommended <sup>4</sup> . Silver Saver <sup>®</sup> recommended.                                       |
| Category A <sup>2</sup>          | Not recommended <sup>4</sup> .  |
| Category B <sup>3</sup>          | Not recommended <sup>4</sup> .  |

- 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. Do not store outdoors, in high humidity, or at temperature above 80°F (27°C).

### 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

RoHS, TL8135, OEM Approved, qualified to U.S. Department of Defense Mil-Prf-3420H.



**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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