

# STANDARD ENGINEERING INSTRUCTION

## CORROSION INHIBITOR

### DSF 3.3.0

#### 1. Definition

Corrosion Inhibitor is a material that attaches or coats the metal surface, providing a protective barrier film, which in turn stops the corrosive reaction from developing. Temporary coatings are often used to prevent corrosion during storage and shipment, and between machining or processing operations.

#### 2. Choosing a Corrosion Inhibitor:

When choosing the corrosion inhibitor for the application, several things need to be considered: -

- Effectiveness timeframe (1 week, 1 month, 1 year, etc.)
- Materials to be protected.
- Method of application (dip, spray, brush, etc.)
- Type of product (Oil Solvent or Water-based)
- Type of protection required (In process, storage, or shipping)
- Storage, packaging and/or shipping conditions (temperature, humidity & seasonal conditions)
- Environmental, health and safety requirements.

#### 3. ASMPT Recommend Products:

Corrosion Inhibitor comes in many different types and most suitable should be selected depending on the application its being applied on. Few recommended products are shown below, however, there are many more/similar products which can be used.

| Recommended Products             |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                            |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Description                      | Application/Properties                                                                                                                                                                                                                                                                                                                                                  | Advantages                                                                                                                                                                                                                                                                        | Durability                                                                                 |
| <b>Castrol Rustilo™ DW 300 X</b> | <ul style="list-style-type: none"> <li>○ Rapidly removes water from components subsequent to electroplating process, after machining using soluble cutting fluids or parts that have been washed.</li> <li>○ The very thin residual film provides effective short to medium term protection against corrosion during intermediate storage or transportation.</li> </ul> | <ul style="list-style-type: none"> <li>○ Good operator acceptance - based on a mild odour isoparaffinic solvent.</li> <li>○ Free from heavy metals, such as Barium.</li> <li>○ Compatible with mineral oils; is suitable for the protection of hydraulic system parts.</li> </ul> | <ul style="list-style-type: none"> <li>○ Preferred for shorter term protection.</li> </ul> |

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| Recommended Products             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                       |                                                                                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Description                      | Application/Properties                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Advantages                                                                                                                                                                                                                                                                            | Durability                                                                                                                                       |
| <b>Castrol SafeCoat™ DW 23 X</b> | <ul style="list-style-type: none"> <li>○ Rapidly removes water from components subsequent to electroplating process, after machining using soluble cutting fluids or parts that have been washed.</li> <li>○ The thin residual film provides effective medium-term protection against corrosion during intermediate storage or transportation.</li> <li>○ It can be used as a lubricant for mild press working, where corrosion protection without further treatment is required.</li> </ul> | <ul style="list-style-type: none"> <li>○ Free from heavy metals, such as Barium.</li> <li>○ Forms an even film.</li> <li>○ Excellent water displacing and penetrating properties.</li> <li>○ Long bath-lifetimes possible.</li> <li>○ Mild odour.</li> </ul>                          | <ul style="list-style-type: none"> <li>○ Preferred for shorter term protection.</li> </ul>                                                       |
| <b>Boton® Toluwa BW-68G</b>      | <ul style="list-style-type: none"> <li>○ Boton Sideway oils are designed for the lubrication of machine tool slides, tables and feed mechanism.</li> </ul>                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>○ Unique design grease to offer excellent protection for machinery.</li> </ul>                                                                                                                                                                 | <ul style="list-style-type: none"> <li>○ Preferred for longer term protection i.e., Sea fright.</li> </ul>                                       |
| <b>ENSIS® DW1262</b>             | <ul style="list-style-type: none"> <li>○ It provides medium term protection and final protection on:</li> <li>○ Materials and equipment during shipment overseas.</li> </ul>                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>○ Economic – Rapid and clear separation of displaced water, increase bath lifetime, reduce sump clean up frequency.</li> </ul>                                                                                                                 | <ul style="list-style-type: none"> <li>○ Preferred for longer term protection i.e., Sea fright.</li> </ul>                                       |
| <b>ENSIS® Engine Oil 30</b>      | <ul style="list-style-type: none"> <li>○ It provides long-term internal protection of gasoline and diesel engines during shipment, storage and laying-up.</li> </ul>                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>○ Excellent rust prevention. Contains additives to neutralize the acidic products</li> </ul>                                                                                                                                                   | <ul style="list-style-type: none"> <li>○ High flash points and low volatility – to minimize the fire risk in application and storage.</li> </ul> |
| <b>ACF-50</b>                    | <ul style="list-style-type: none"> <li>○ It is an ultra-Thin Fluid Compound (TFFC) that actively treats metal using advanced polar bonding technology.</li> </ul>                                                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>○ Actively penetrates and "creeps" into the tightest seams, lap joints, micro cracks, and around rivet heads, displacing moisture and other corrosive fluids (orange juice, coke, coffee, salt water) in these corrosive prone area</li> </ul> | <ul style="list-style-type: none"> <li>○ Thin film acts like an "OFF SWITCH" for corrosion remaining effective for up to 24 months</li> </ul>    |

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