

WEG Motors Painting Plans & Environmental Corrosivity correlations



The category of corrosivity is associated to dimensional losses of carbon steel, as showed at table 1.

The unprotected metal is exposed to climatic and environmental conditions. According to graph B at Figure 1, carbon steel may suffer dimensional loss of 40 μm under highly polluted atmosphere (P3), at non-coastal region (S0), 39 $^{\circ}\text{C}$ and relative humidity of 78%, during the first year of exposure.

Therefore, this environment was classified as C3. According to table 2, WEG Painting Plan 205 is recommended to guarantee high protection.

Table 1 - Category of corrosivity according to metal loss (μm) of one-year exposed carbon steel.

| Category of corrosivity | Minimum | Maximum |
|-------------------------|---------|---------|
| C1 | 0,0 | 1,3 |
| C2 | 1,3 | 25 |
| C3 | 25 | 50 |
| C4 | 50 | 80 |
| C5 | 80 | 200 |
| CX | 200 | 700 |

Figure 1 - Environmental effect over one-year exposed carbon steel.

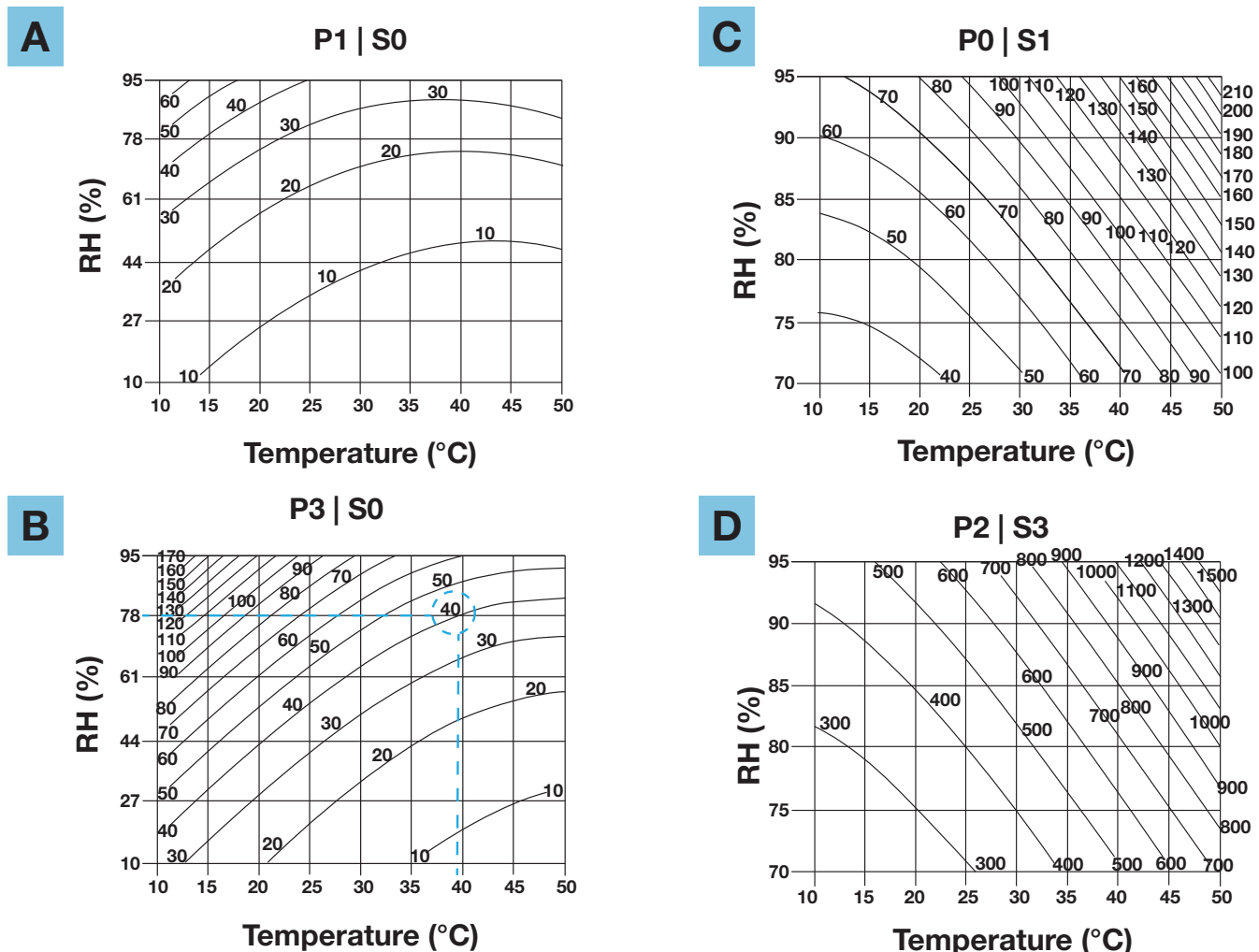


Table 2 - WEG Motors Painting Plans & Environmental Corrosivity correlations

| ISO 12944-2 | CATEGORIES OF CORROSIVITY | | | | | | | | | | | | | | |
|---------------------|---|-------|----------|----------------|----------|----------------|-----|---------------------------|--------|-------------------|-----------|----------------|--|-------|--|
| | C2 | | C3 | | C4 | | C5 | | CX | | | | | | |
| ISO 14713-1 | DURABILITY: Low (up to 7 years), Medium (7 - 15 years), High (15 - 25 years), Very high (above 25 years). | | | | | | | | | | | | | | |
| | Low | | High | | Medium | | Low | | Medium | | Very high | | | | |
| WPR-6618 | WEG MOTORS PAINTING PLANS | | | | | | | | | | | | | | |
| Steel | 203 A 207 A | 207 N | | 205 E 205 P | | 205 E 205 P | | 202 E 202 P 214 P * | | 211 E 211 P** | | 212 E 212 P | | 212 P | |
| Forged steel | | - | | | | | | | | | | | | | |
| Aluminum | | - | | | | | | | | | | | | | |
| Cast iron | | 207 N | | 205 E 205 P | | 205 E 205 P | | 202 E 202 P 214 P * | | 211 E 211 P ** | | 212 E 212P | | 212 P | |
| | | | | | | | | | | | | | | | |
| ISO 9223 | POLLUTION AND SALINITY CATEGORIES | | | | | | | | | | | | | | |
| Polluted atmosphere | Rural: P0, Urban: P1, Industrial: P2, Highly polluted industrial: P3. | | | | | | | | | | | | | | |
| | P0 to P1 | | P1 to P2 | | P2 to P3 | | P3 | | | | | | | | |
| Salinity | Distance from shore: S0 (above 30 km), S1 (10 - 30 km), S2 (below 10 km), S3 (below 200 m). | | | | | | | | | | | | | | |
| | S0 | | S1 to S2 | | S3 | | | | | | | | | | |

* According to Petrobrás Standard N1735 (condition 1 – advisory letter to CENPES).

** According to Petrobrás Standard N1735 (Condition 1 – Option 1).

Do you still have questions?
Please, contact the nearest WEG office.
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