

GP 16-01-03	Protection of Electrical Equipment in Contaminated Environments	July 2001
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Protection of Electrical Equipment in Contaminated Environments

GP 16-01-03

Scope

[I] This Global Practice (GP) contains additional requirements for the protection of electrical equipment in contaminated environments.

[I] An asterisk (*) indicates that additional information is required. If a job is contracted, this additional information will be furnished in the Job Specification.

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1. General

1.1. Environments

[I] The contaminated environments included in this GP are:

- 1) Extreme moisture, environments promoting fungus growth, deterioration of hygroscopic materials, and accelerated corrosion.
- 2) Marine exposure promoting corrosion by salt spray or the presence of chlorides in the air.
- 3) Copper-attacking contaminant leakage, such as ammonia and acetylene, and hydrogen sulfide.
- 4) Solvent and corrosive chemical spillage and spray areas.
- 5) Conducting and corrosive dust fallout areas, as in fertilizer plants.
- 6) Powder and non-conducting material fallout areas, as in polypropylene and polyethylene plants.

1.2. Protective Measures Approval

* [C] Contractor shall develop those protective measures most suitable for the plant location. They may involve selection of materials and coatings, localized climate control, and plot layout. Means of protection and details of materials and design shall be approved by the Owner's Engineer.

2. Conditions and Protective Treatments

2.1. Extreme Moisture

* [O] When a plant location is specified to be tropical, exposure to extreme moisture shall be assumed.

[C], [R] Certain classes of electrical equipment may require special treatment or protection, or both, in order to guard against extreme moisture conditions and fungus growth. Contractor shall determine what equipment requires special treatment and/or protection and the extent to which special treatment or protection is required.

2.2. Marine Exposure

* [R] Exposed insulators in marine exposure may require protection if fog or drizzle follows sunny days' accumulation of salt spray. Protective measures shall be the same as for conducting and corrosive dusts.

2.3. Copper-Attacking Fumes

- 1) [O], [R] Acetylene—Protection against acetylide formation shall be required for all copper, silver, or gold not isolated from atmospheric contact in acetylene manufacturing plants.
- 2) [R] Hydrogen Sulfide—Protection against copper oxidation shall be required in hydrosulfurization plants and any other hydrogen sulfide producing units. The following protective measures shall be taken:

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