

# Surface Protection & Coating Life

## Many Factors affect the Life of a Coating:

- Residues or oil, grease, rust and soil, which can prevent adhesion or mechanical bonding of the paint to the surface
- Residues of various chemical salts, which can induce corrosion (osmotic blistering)
- Mil Scale which is cathodic to the steel and attacks it



# Five Causes for Most Coating-Related Failures

- 1. Improper surface preparation:** The substrate is not adequately prepared. This may include cleaning, chemical pre-treatment and surface blasting.
- 2. Improper coating selection:** The paint or coating is not suitable for the environment.
- 3. Improper application:** This problem can involve shop-related or field-applied coatings.
- 4. Improper drying, curing and over coating:** This failure, like number 3, happens when specifications for the application are not met.
- 5. Mechanical damage:** This occurs due to improper handling of the painted or coated surface, resulting in a breach in the paint or coating itself.



**Equipment and  
facilities can last  
up to 5-10x longer  
when industrial  
coatings are  
applied properly.**





**The CAS program  
teaches advanced skills  
in corrosion protection  
of steel and concrete,  
with courses in surface  
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# **Why pipeline incidents happen**

**Between 2010 and 2014, metal loss or deterioration caused 79% of pipeline incidents. That includes things like cracking, corrosion and material defects.**







**It can be 14x more  
expensive to replace  
steel and other  
materials than to  
apply a coating during  
construction.**

