



# Why is Corrosion Important?

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# Global Impact of Corrosion

- The global cost of corrosion is estimated to be US\$2.5 trillion, or 3.4% of the global Gross Domestic Product
- Between 15% and 35% of these costs could be saved by available corrosion control practices



# NACE BY THE NUMBERS

36

COUNTRIES  
courses are offered

16,627+

STUDENTS TRAINED IN 2015  
in the U.S. and Internationally

841

COURSES HELD IN 2015  
in the U.S. and Internationally

29

COURSES  
to choose from



35,466

MEMBERS & GROWING!

\*data displayed is current as of January 31, 2016



Corrosion in the corrosion industry is like  
gravity in the airline industry



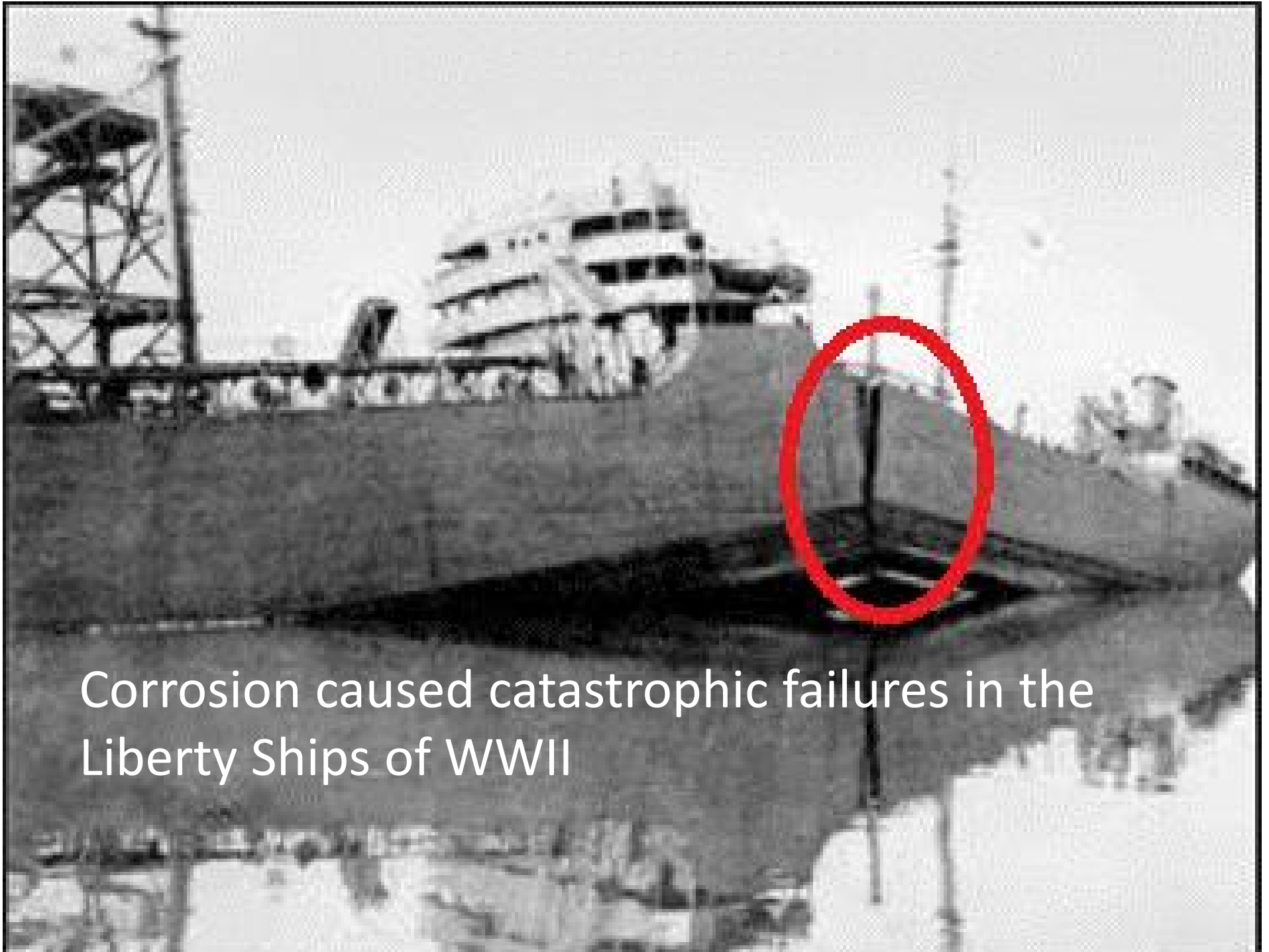
Corrosion is why gold is valuable

Corrosion is why the Statue of Liberty is green, not copper-colored.





The Golden Gate bridge is golden because of corrosion



Corrosion caused catastrophic failures in the Liberty Ships of WWII





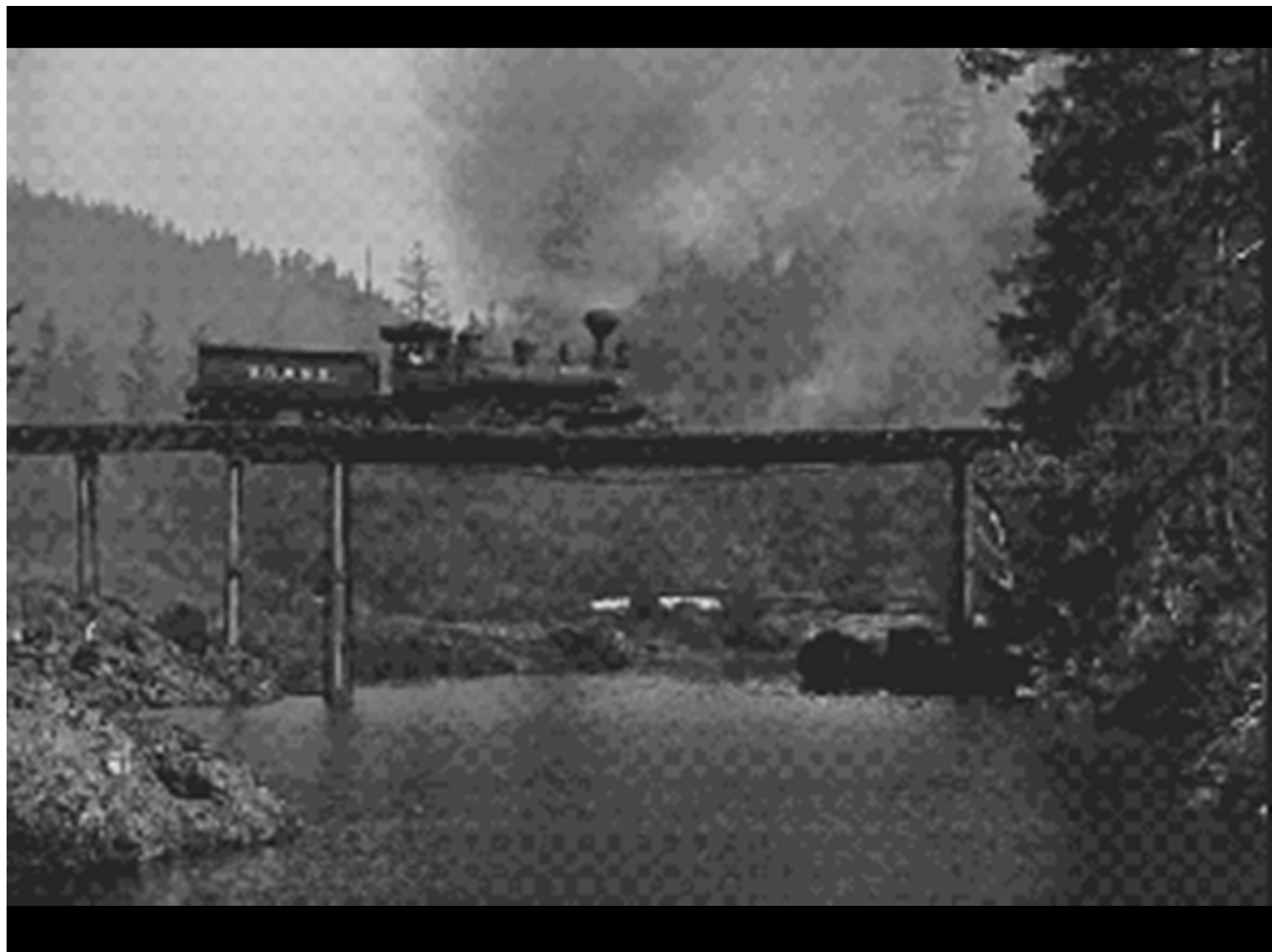
Aloha Airlines flight 243 caused by crevice corrosion and fatigue cracking



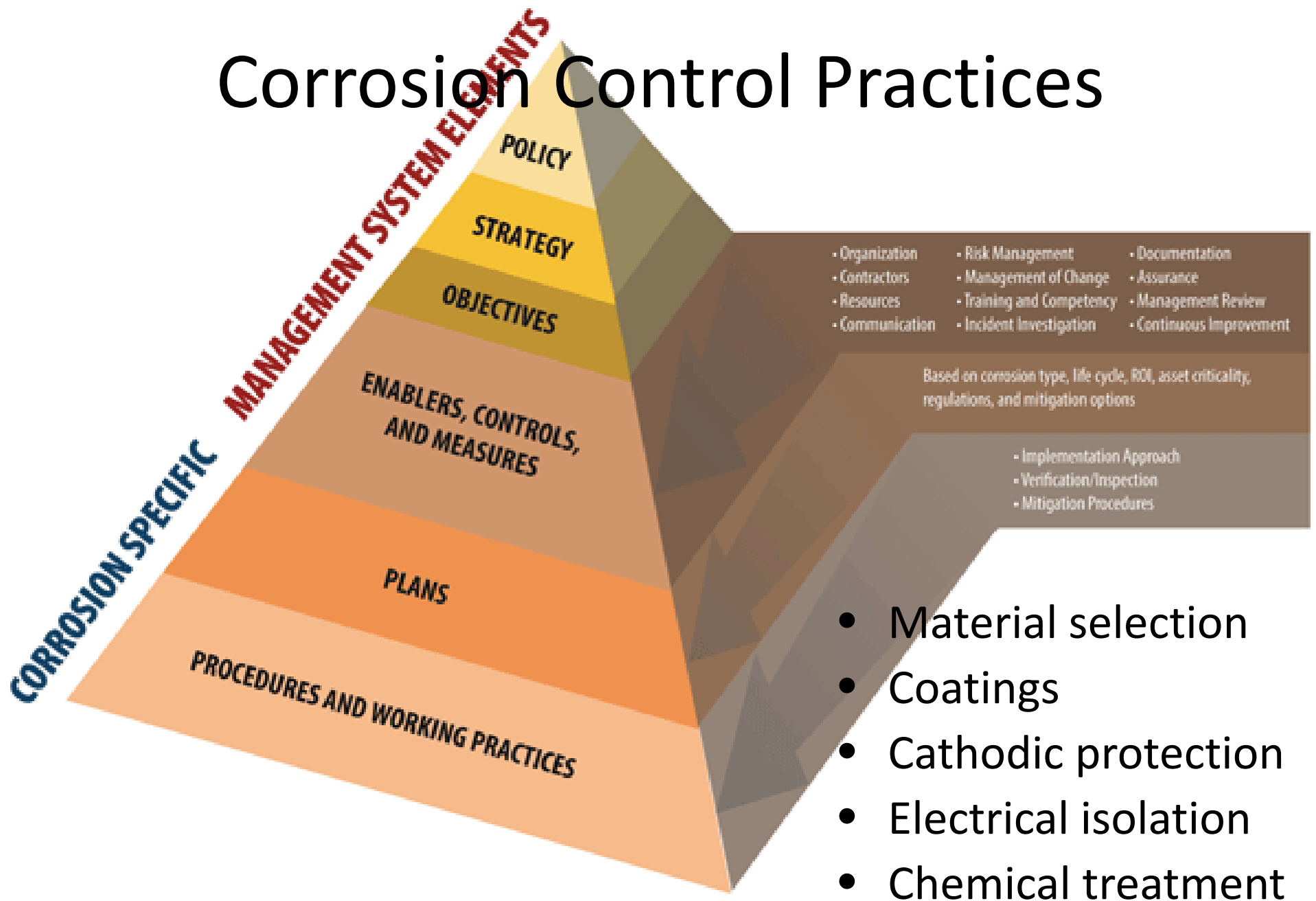
Corrosion is why airplanes have round windows



The Charlotte Motor Speedway pedestrian bridge failed due to corrosion of supports



# Corrosion Control Practices





Corrosion is why we use silverware  
(materials selection)



4GIFs  
.com

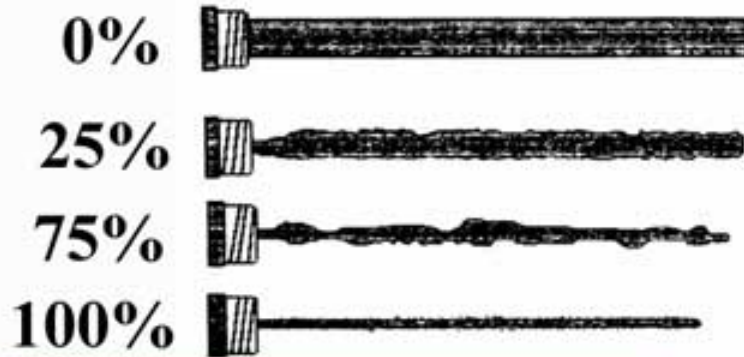


Corrosion is (one of) the reasons we protect steel water towers with coatings





Inspect rod every  
1-3 years



Replace anode rod before  
it reaches 75% loss.

Rod is 44" to 51" tall

Remove rod from top  
of tank using 1-1/16" socket

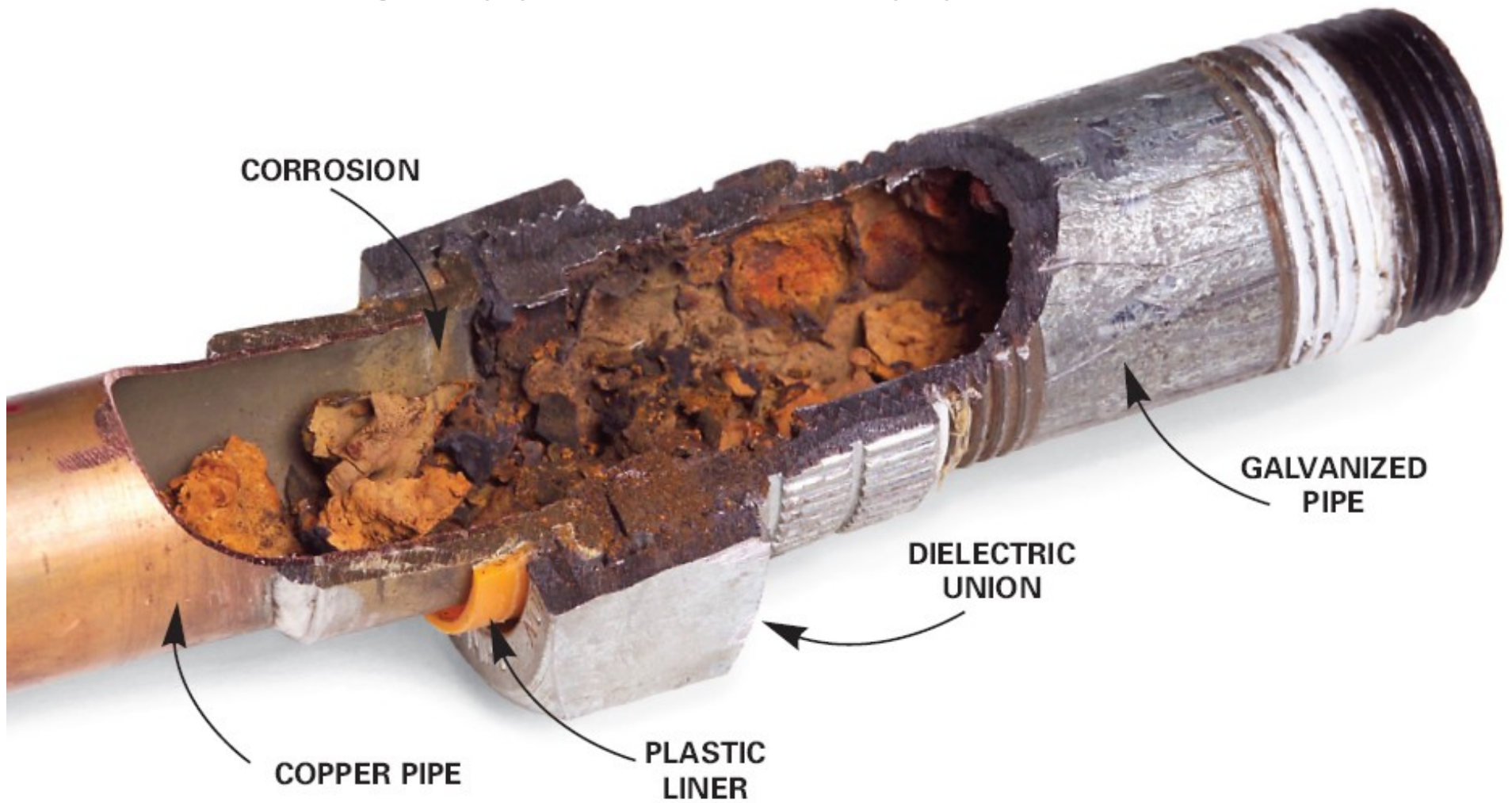


If there's not enough room above water heater,  
buy anode rod that has sausage links

Extend life of water heater with anode replacement

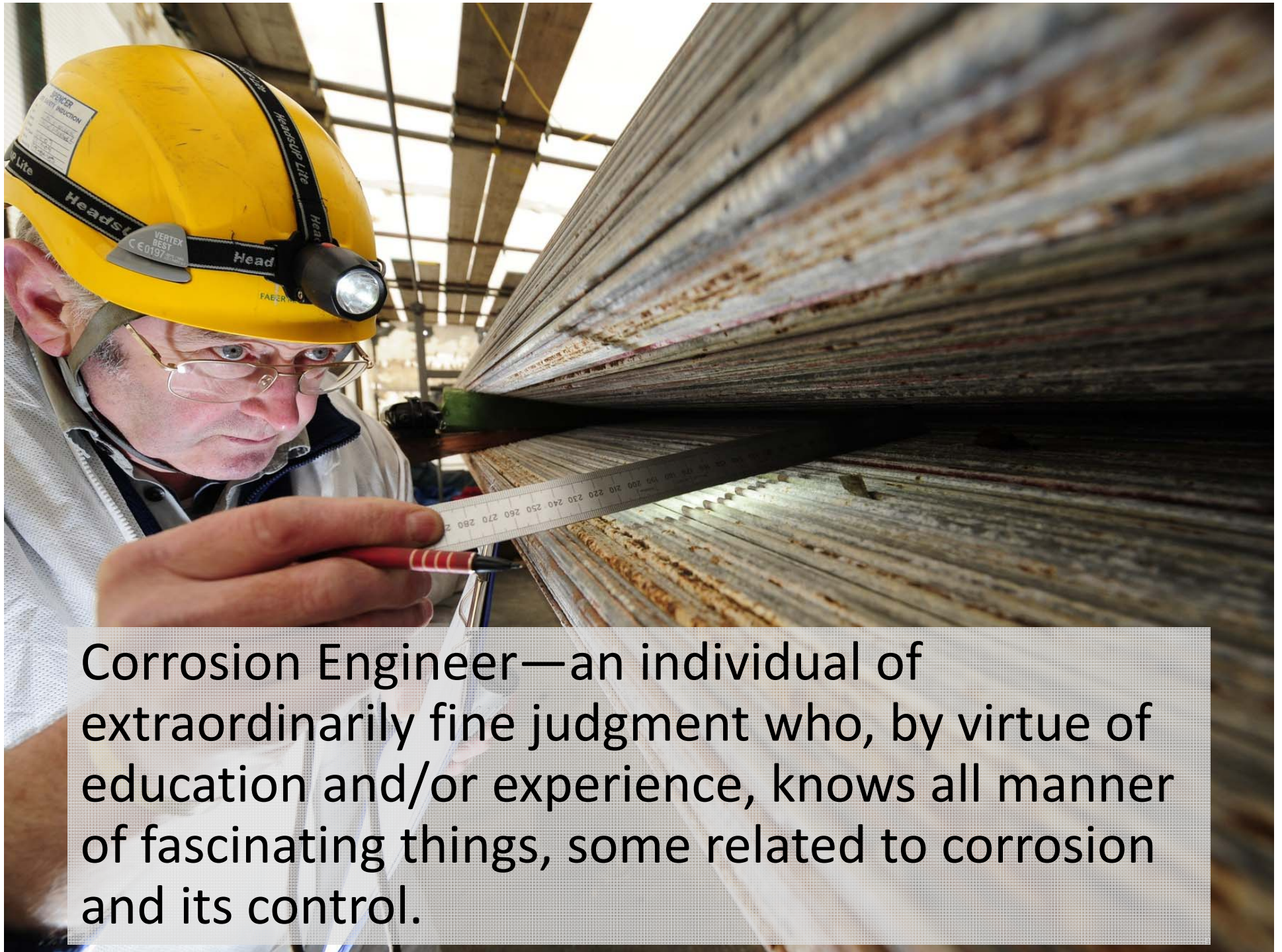
Cathodic protection prevents corrosion  
in a hot water heater

# Electrical isolation coupling connecting copper and steel pipes





The Flint water crisis lead pipe corrosion was caused by failure to treat with chemical inhibitors



Corrosion Engineer—an individual of extraordinarily fine judgment who, by virtue of education and/or experience, knows all manner of fascinating things, some related to corrosion and its control.

# UNEMPLOYMENT

The image features a row of ten dark silhouettes of people standing in a line, facing right. They are positioned in front of a background that includes several job listings. The listings are partially obscured by the silhouettes but contain text such as 'Help Wanted - General', '5100', and 'Computer'. The word 'EMPLOYMENT' is written in large, bold, white letters across the top of the image, with a slight shadow effect. The overall color palette is warm, with yellow and orange tones.

If it wasn't for corrosion, none of us would have jobs.

- George Benoit, 1993

Manager, Pipeline Services, El Paso

RUST-OLEUM



TensionNOT.com



**I HAVE MANY CORROSION JOKES**

**I'M JUST AFRAID THEY WON'T GET A  
GOOD REACTION**



**CORROSION  
ENGINEER**



**BECAUSE**

**FREAKIN'**

**MIRACLE WORKER**

**ISN'T AN OFFICIAL JOB TITLE**

BEING A  
**CORROSION  
ENGINEER**

≡ IS EASY. IT'S LIKE ≡

**RIDING A BIKE**

EXCEPT THE BIKE IS ON FIRE  
YOU'RE ON FIRE  
EVERY THING IS ON FIRE  
AND YOU'RE IN HELL



★ I'M NOT ★

**SUPERWOMAN**

BUT I'M A

**CORROSION  
ENGINEER**

♥ SO ♥

**CLOSE ENOUGH**

★ ★ ★

★ ★ ★ I'M A ★ ★ ★  
**PROUD**  
**DAD**  
OF A FREAKING  
★ AWESOME ★  
**CORROSION**  
**ENGINEER**

...YES, SHE BOUGHT ME THIS SHIRT

THE  
**BEST KIND OF**  
**MOM**  
★ RAISES A ★  
**CORROSION**  
**ENGINEER**

**THANK YOU**

