



Course COR

Corrosion of Aircraft Structures

Course Summary

Taught by Fatigue Concepts at Abaris' Reno, NV facility, this course is for anybody looking to learn about corrosion of metallic structures. Each day of class will consist of examples, slides showing color and texture of corrosion products, study problems and aircraft case studies involving fighters and transport aircraft.

Click on the following link to enroll in the class: <https://flipt.wufoo.com/forms/fatcon-enrollment-and-payment-form-4-day-course/>

Introduction

Topics

Day 1

What is Corrosion?	8:00 - 9:15
The Cost of Corrosion	
Safety and Environmental Factors	
Corrosion Data Sources (NATO, USAF, U.S. Navy...)	
Corrosion Fundamentals	9:30-10:45
Electrode Potentials	
Thermodynamics	
Corrosion Products and Passivity	
Classification of Different Types of Corrosion, Part 1	11:00 - 12:00
General Attack	
Galvanic Corrosion	
Pitting	
Crevice Corrosion	
Microbial Corrosion	
Classification of Different Types of Corrosion, Part 2	1:00 - 2:00
Erosion - Corrosion	
Corrosion Fatigue	
Fretting	
Stress-Corrosion Cracking	
Hydrogen Embrittlement	
Exfoliation	
Galvanic Corrosion	2:15 - 3:15
Intergranular Corrosion	3:30 - 4:30

Day 2

Crevice Corrosion	8:00 - 9:15
Pitting	9:30 - 10:45
Microbial Corrosion	
Erosion - Corrosion	11:00 - 12:00
Corrosive Wear	
Corrosion of Multiphase Alloys	1:00 - 2:00
Review Problems for Day 2	2:15 - 3:15
More Case Studies and Discussions	3:30 - 4:30

Day 3

Deadly Corrosive-Mechanical Interactions	
Corrosion Fatigue, SCC Stress Corrosion	8:00 - 12:00 (with 2 breaks)
Fretting Fatigue, Hydrogen Embrittlement	1:00 - 4:30 (with 2 breaks)

Day 4

Corrosion Measurement & Failure Analysis	8:00 - 9:15
Materials Selection	9:30 - 10:30
Coatings & Inhibitors	10:45 - 11:45
Designing Against Corrosion	12:00 - 1:00(Optional) Informal Discussions
	2:00 - 4:00

Course Benefits

Prerequisites

None

Teaching Method

Classroom Instruction

CEU