



# Enviro

Complimentary data module providing corrosion data, irradiation, weathering and aging information





**PLM EGYPT**  
Industrial solutions for  
**CAD/CAM/CAE/Tooling/CNC**  
Application



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Industrial Solutions for CAD /CAM /CAE /Tooling /Inspection Application

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-  **Corrosion**
-  **Weatherability**
-  **Aging**
-  **Irradiation**

Enviro is an additional data module providing corrosion data, irradiation, weathering and aging information for thousands of metallic and non-metallic materials.

### The Challenge

- Risks and potential catastrophic failures in exploitation
- Predicting product life under a range of influences deriving from external effects
- Ever increasing quality and performance challenges during product useful life
- Supporting innovation by aiding complete and thorough material selection decisions

### The Solution

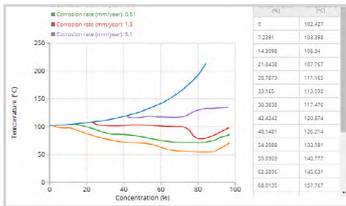
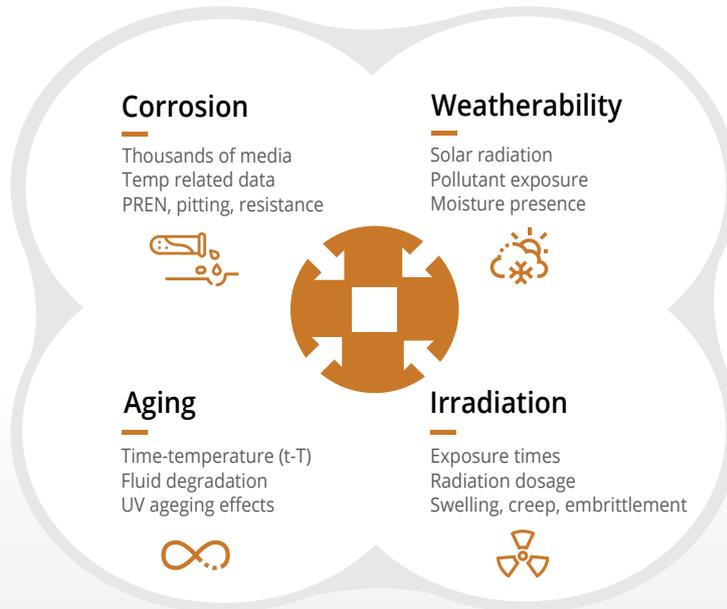
- ✓ Enviro focusses on four complimentary datasets which provide even more breadth and depth to the information provided within the fully integrated platform of Total Materia
- ✓ Covering corrosion, weatherability, irradiation and different types of aging effects, Enviro provides a key source of information to design, manufacture and sell products of greater quality and longevity in to the market place

### The Benefits

- Reducing risks and increasing safety in exploitation
- Higher prevention rate of material failure during product life
- More knowledge for key design and material selection decisions



In synergy with the primary material databases, Total Metals and PolyPLUS, Enviro aids material application decisions by providing a comprehensive understanding of material behavior under the influence of a range of diversified impactful effects.



## Corrosion data for thousands of materials

Find information about material corrosion rates and corrosion resistance in acid and aqueous environments and at a range of temperature conditions. Find direct information for a specific material using an intuitive filter to select the most suitable condition for you including media, temperature, exposure time, and corrosion type.

#### Conditions

Total items found: 4

CONDITION

Cured: Second Cycle: Weathering ageing properties: 30 days at 40°C and 92% RH

Cured: Second Cycle: Weathering ageing properties: 40°C and 92% RH

Cured: Second Cycle: Weathering ageing properties: 60 days at 40°C and 92% RH

Cured: Second Cycle: Weathering ageing properties: 90 days at 40°C and 92% RH

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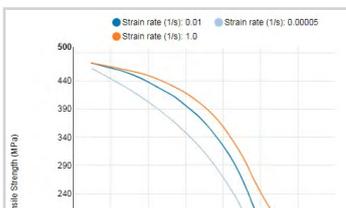
#### Properties

Selected Condition: Cured: Second Cycle: Weathering ageing properties: 30 days at 40°C and 92% RH

Property	Value	Unit	Note
Shear Strength	21.2	MPa	Single-Lap Test Method: ISO 4587

## Weatherability and environmental exposure information

Typically associated with polymers, weatherability information provides important exposure information for solar, moisture, heat, pollutants, saline water and even microbial attack for thousands of materials. Helps tackle key material integrity issues by avoiding chemical process changes, weakening of material properties, and aesthetic issues such as coloration.



## Aging effects and related properties data

Delivering a range of aging (time) information in a combination of one or more additional factors, which cause a general degradation of material integrity and can therefore have a serious impact on the long-term application of the materials. Covered additional factors in combination with time include thermal, chemical, and weathering effects.

#### Conditions

CONDITION

1 Exposure 5 Mrad, 1g/kg

2 Exposure 10 Mrad, 1g/kg

3 Exposure 15 Mrad, 1g/kg

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#### Properties

Selected Condition: Exposure 5 Mrad, 1g/kg

Property	Value	Unit	Note
Tensile Strength	22.8	MPa	
Tensile Strain	5.9	%	at Break
Tensile Strength	7.3	MPa	at 100% Strain
Shore Hardness	40	Type D	

## Irradiation influences on material behavior

A key dataset for the nuclear industry, irradiation data provides a clear relationship between exposure time, radiation dosage and the subsequent effects on the material properties. Irradiation of materials can cause potentially catastrophic failures relating to swelling, creep and general embrittlement of the exposed materials.