



TYPES OF CORROSION

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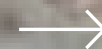


PICORR[®]
SOLUTIONS TO CORROSION

A microscopic image of a metal surface showing significant crevice corrosion. The surface is covered with a complex network of reddish-brown and orange corrosion products, particularly concentrated in the crevices and along the edges of the metal. The background metal surface is a lighter, silvery-grey color.

Crevice corrosion

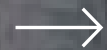
This form of corrosion happens in confined spaces or crevices where the availability of oxygen is limited, such as gaps, joints, or under deposits on a metal's surface.



A grayscale micrograph of a metal surface showing numerous vertical, parallel cracks, characteristic of stress corrosion cracking. The cracks are deep and irregular, running across the entire width of the image. A semi-transparent dark gray box is overlaid on the right side of the image, containing text and a navigation arrow.

Stress corrosion cracking

It is a phenomenon where the combined action of stress and a corrosive environment leads to the cracking of a material. It typically occurs in alloys under tensile stress.





Pitting corrosion

Pitting corrosion results in localized areas of material loss, forming small pits or cavities on the metal's surface. It often occurs due to local chemical inhomogeneities or exposure to aggressive environments.





Uniform corrosion

Also known as general corrosion, this type affects the entire surface of a material uniformly, resulting in a gradual and consistent loss of material over time.





High-temperature corrosion

This type of corrosion occurs at elevated temperatures, typically in industrial processes involving combustion or chemical reactions. It can lead to the degradation of materials due to oxidation, sulfidation, or other chemical reactions at high temperatures.

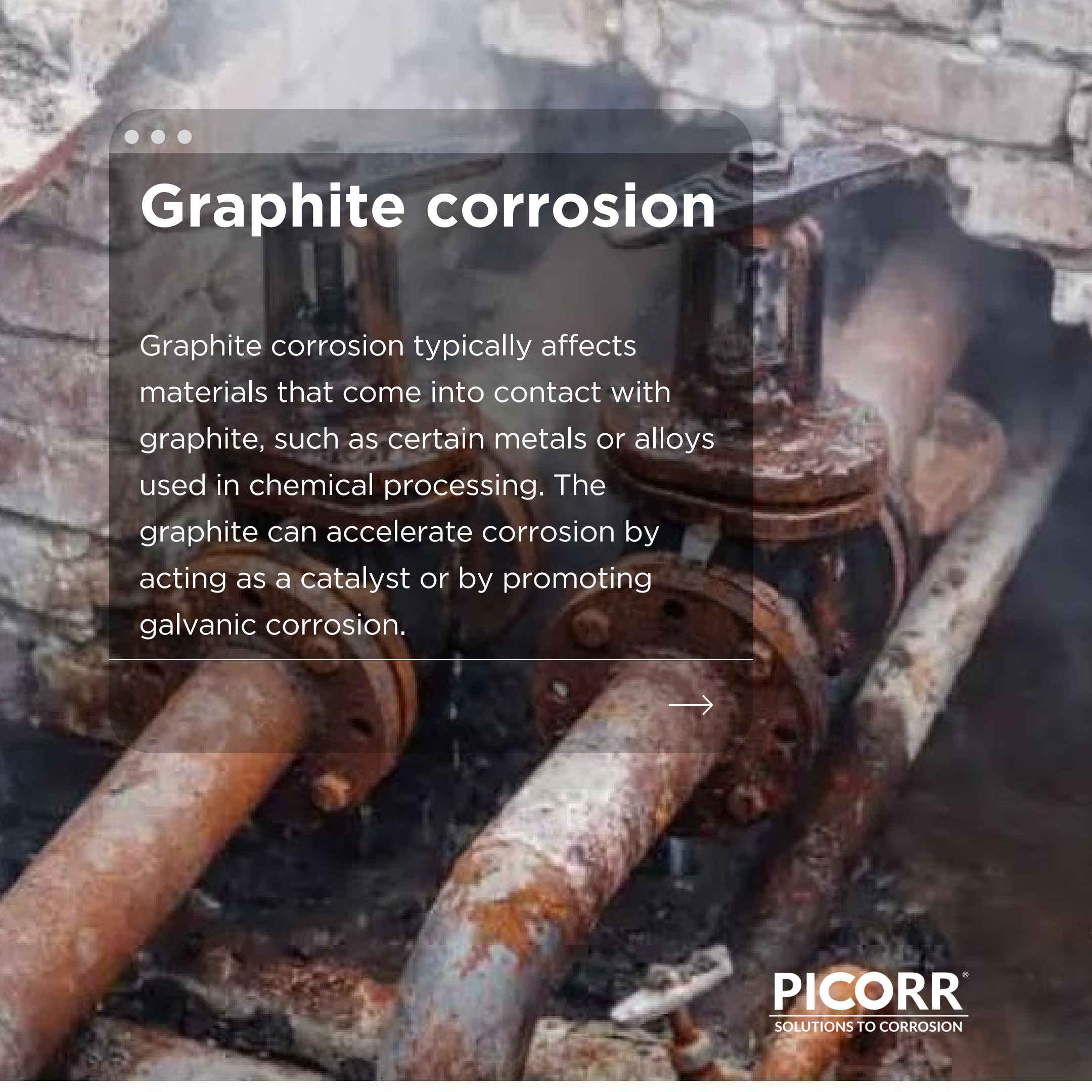


The background image shows a close-up of a metal surface that has been severely corroded. The surface is covered in a thick, multi-layered patina of various colors including bright yellow, orange, red, and dark brown. The texture is rough and uneven, with some areas appearing more pitted than others. A semi-transparent dark grey rounded rectangle is overlaid on the right side of the image, containing text and a navigation arrow.

Microbial corrosion

Also known as microbiologically influenced corrosion (MIC), it is caused by the presence and activities of microorganisms, such as bacteria or fungi, on the metal's surface. These microorganisms can create corrosive environments or directly attack the material.





Graphite corrosion

Graphite corrosion typically affects materials that come into contact with graphite, such as certain metals or alloys used in chemical processing. The graphite can accelerate corrosion by acting as a catalyst or by promoting galvanic corrosion.





Galvanic corrosion

This occurs when two different metals or alloys are in contact in an electrolyte (such as a liquid or moist environment), creating a galvanic cell that leads to the corrosion of the less noble (more reactive) metal.





Sources



National Association of Corrosion Engineers. (2022). Understanding Pitting Corrosion. NACE International. Retrieved from “[Climate Change Evidence: How Do We Know?](https://climate.nasa.gov/evidence/)” NASA, 6 Oct. 2020, climate.nasa.gov/evidence/.

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