

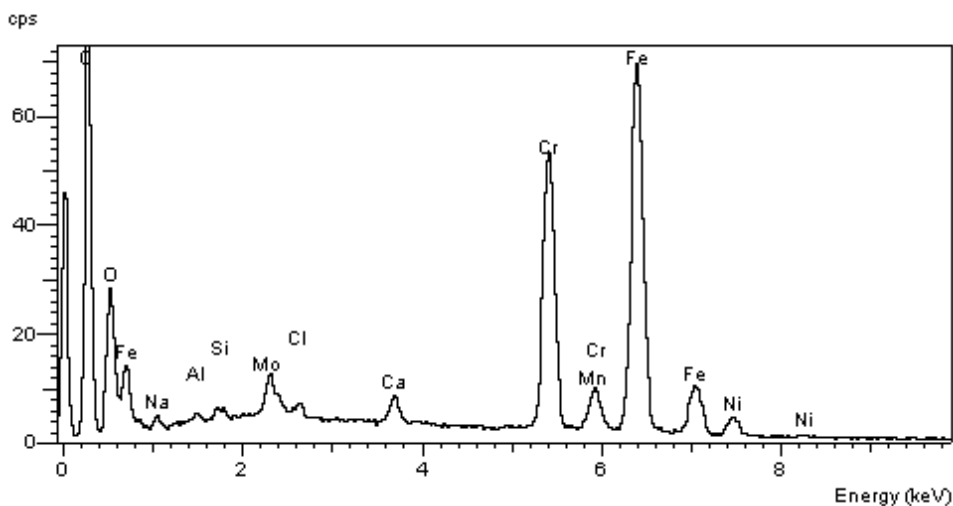
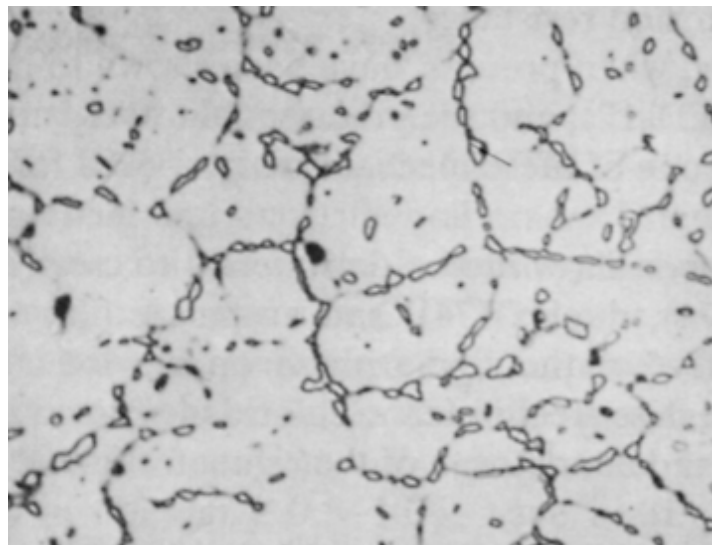


• Advisory • Consultancy • Training • Expert Witness • FA • Diagnosis • Design Review • Corrosion Test • Inspection • Coatings •
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Metallurgical Investigation & Analysis

WebCorr has access to a wide range of state-of-art analytical equipment and facilities. Our experienced expert metallurgist has the expertise in providing metallurgical investigations and metallurgical analysis.

- Chemical composition analysis and verification of conformity/ compliance to specifications, designated grades, and relevant industry standards
- Microstructure analysis and its effect on property
- Effect of hot-working and cold-working on corrosion resistance. For example, the effect of welding or overheating on the corrosion resistance.
- Effect of shot-peening and sandblasting on the resistance to pitting, crevice, and stress corrosion cracking
- Hardness of materials and its effect on susceptibility to cracking (HIC, SOHIC, SCC, SSC)
- Precipitation of intermetallics (sigma phase, chi phase, Laves phase) and compounds (carbides, nitrides)
- Alpha prime, delta prime and 475°C embrittlement
- Weld metallurgy, weldment corrosion, weld decay, and knife-line attack
- Brazing and Soldering processes and their effect on corrosion resistance of alloys
- Cast and wrought steels and alloys: comparable national and international grades and their corrosion resistance
- Interpretation of standards pertaining to chemical compositions & mechanical properties for metals and alloys
- Verification of the degree of surface preparation in steel structures subjected to sandblasting and painting



Our expertise in metallurgical investigations and metallurgical analysis has enabled us to act as expert metallurgist in litigation and arbitration cases related to corrosion, materials, metallurgy, paints & metallic coatings. With internationally recognized [professional certification and professional registration](#), we can help you win your case not only in local courts but also in courts of other countries.

Typical Consulting Services Provided to Clients:

- Microstructure analysis and identification of gray cast iron, ductile iron and wrought iron
- Microstructure analysis of an Inconel 600 alloy
- Determining the degree of sensitization in 304 stainless steel
- The corrosion resistance of spiral welded steel piles
- Stress corrosion cracking of copper alloy exposed to humid tropical atmosphere
- Stress corrosion cracking of 304 stainless steel in humid tropical atmosphere
- The corrosion resistance of cast stainless steels
- Expert metallurgist in a case related to the corrosion of stainless steel assembly
- Expert metallurgist in a case related to the rusting of stainless cladding in buildings
- Expert metallurgist in a case related to the collapse buildings due to corrosion
- Expert metallurgist in a case related to the corrosion of hot-rolled and cold-rolled steel plates
- Expert metallurgist in a case related to the corrosion of steel pipe piles

Corrosion Training Courses Related to Metallurgical Investigation & Analysis:

The following corrosion short courses are relevant to metallurgical investigation & analysis. They can be conducted at any time for you as in-house training courses, online courses or distance-learning courses. Public short courses, seminars and workshops are also conducted regularly. The contents and schedules of public short courses for the current year is available [here](#).

- Corrosion, Metallurgy, Failure Analysis and Prevention (3-6 days)
- Materials Selection and Corrosion (2 days)
- Stainless Steels and Alloys: Why They Resist Corrosion and How They Fail (1 day)
- Pinhole Leaks in Copper Pipes in Potable Water Distribution System: Causes & Prevention (1 day)
- Corrosion and Its Prevention (2-5 days module)