



MECHANICAL, METALLOGRAPHIC, CHEMICAL, CORROSION TESTS



Mechanical, Metallographic Tests

Brinell hardness · Metallic materials Welded joints UNE-EN ISO 6506-1 ASTM E10	●	●	●	●	●
Vickers hardness · Metallic materials Welded joints UNE-EN ISO 6507-1 ASTM E384 ASTM E92 UNE-EN ISO 9015-1 UNE-EN ISO 6507-1	●	●	●	●	●
Rockwell hardness UNE-EN ISO 6508-1 ASTM E18	●	●	●	●	●
Tensile test UNE-EN ISO 6892-1 ASTM E8/E8M ASTM B557M UNE-EN 2002-001	●	●	●	●	●
Bend test · Metallic materials Welded joints UNE-EN ISO 7438 ASTM E290 UNE-EN ISO 5173 ASME IX/QW160 ASME IX/QW 466-1 ASTM E190	●				
Charpy pendulum impact test · Metallic materials Welded joints UNE-EN ISO 148-1 ASTM E23 UNE-EN ISO 9016 ASME IX/QW170	●		●		
Tensile test at elevated temperature UNE-EN ISO 6892-2 ASTM E21	●		●		
Axial Fatigue ASTM E466	●				
Determination of depth of decarburization <i>Metallographic method. Methods for measuring the micro-indentation hardness.</i> UNE-EN ISO 3887	●				
Determination of thickness of the surface hardened layers UNE-EN ISO 18203	●				
Fracture toughness (K_{Ic} / J_{Ic}) · Metallic materials ASTM E399 ASTM E1820	●				
Fracture toughness (CTOD Parameter) · Metallic materials Welded joints BS 7448-1:1991 BS 7448-2:1997 ASTM E1820 ISO 12135 UNE EN ISO 15653	●				
Macrographic test EN 2003-7			●		
Test methods for quality control of microstructure of ferritic/austenitic (duplex) stainless steels UNE-EN ISO 17781	●				
Longitudinal / Transversal tensile test · Welded joints UNE-EN ISO 5178 UNE-EN ISO 6892-1 ASME IX/QW150 ASTM E18 UNE-EN ISO 4136	●	●	●		●
Fracture test · Welded joints UNE-EN ISO 9017 ASME IX/QW182	●				
Macrography / Micrography · Welded joints UNE-EN ISO 17639 ASME IX/QW183-184-470	●				
Percentage of porosity and diameter of pore by metallographic method · Non Ferrous cast alloys VDG P201 VDG P202	●				
Characterization of grain size · Steel UNE-EN ISO 643 ASTM E112	●		●		
Determination of the non-metallic inclusion content · Steel Micrographic method with the aid of standard images · Steel ASTM E45 ISO 4967	●		●		
Microstructural characterisation · Steel P-152 Internal method based on: ASM Metals Handbook Vol.9	●				
Determining volume fraction by systematic manual point count · Steel ASTM E562	●				
Coating thickness by magnetic induction UNE-EN ISO 1461 UNE-EN ISO 2178 UNE 135122	●				

Coating, Seals and Adhesives

Determination of resistance to cyclic corrosion conditions · Coated Uncoated UNE-EN ISO 11997-1 PV 1210 CETP-L-467: 200903 VCS 1027 1449	●
Salt spray test S/NSS · Coated Uncoated UNE EN ISO 9227 ASTM B117	●
Coating thickness & oxide coatings by optical microscopy method UNE-EN ISO 1463	●
Resistance to hydrogen induced cracking NACE TM 0284	●
Resistance to stress corrosion cracking in H₂C environments NACE TM 0177 Methods A, B, C ASTM G38 ASTM G39 UNE-EN ISO 7539-2	●
Water resistance in 100% relative humidity · Coating UNE-EN ISO 6270-2 ASTM D2247	●
Resistance to corrosion due to pitting and crevice corrosion · Stainless steel ASTM G48 ASTM A923	●
Resistance to intergranular corrosion · Stainless steel ASTM G28 ASTM A763 UNE-EN ISO 3651-1 UNE-EN ISO 3651-2 ASTM A262	●

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Chemical Tests

Determination of metals by plasma emission spectrometry (ICP-OES) ·

Al alloys · Zn alloys · Cu alloys

P-800 Internal method based on: EN 14242
P-801 Internal method based on: ISO 3815-2
P-802 Internal method based on: UNE-EN 10351
P-803 Internal method based on: ISO/TR 17055
P-804 Internal method based on: UNE-EN 10361
P-805 Internal method based on: UNE-EN 15605

Trace metals by inductively coupled plasma mass spectrometry (ICP-MS)

P-413 Internal method based on: ASTM E2823

Determination of metals by spark emission spectrometry ·

Low to medium alloy · High speed steel · Stainless steel · Al alloys

P-101 Internal method based on: ASTM E415
P-102 Internal method based on: ASTM E415
P-103 Internal method based on: ASTM E1086
P-148 Internal method based on: UNE-EN 14726

Determination of metal by portable FRX ·

Ni alloys · Stainless steel

P-425 Internal method based on: API RP 578-2023 MATERIAL VERIFICATION PROGRAM FOR NEW AND EXISTING ASSETS

Automatic determination of N and O ·

Ti alloys · Ferrous materials

P-115 Internal method based on: ASTM E1019
P-336 Internal method based on: ASTM E1409

Automatic infrared determination of C and S ·

Ni alloys · Fe alloys

P-343 Internal method based on: ASTM E1019

Automatic thermal conductivity determination of H ·

Ti alloys

P-328 Internal method based on: ASTM E1447

Automatic infrared determination of O ·

Electrolytic Cu

P-329 Internal method based on: ASTM E2575

Gravimetric determination ·

Steel · Cast iron

P-324 Internal method based on: ASTM E350

Cleanliness of components ·

Automotive components

Method of extraction of contaminants by pressure rinsing. Method of extraction of contaminants by ultrasonic techniques. Particle mass determination by gravimetric analysis. Particle sizing and counting by microscopic analysis. ISO 16232

Specimen machining and sample preparation

Machining and preparation of accredited tests

AC7101/7

Standard Guide for Preparation of Metallographic Specimens

ASTM E3

Macroetch testing of consumable electrode remelted steel bars and billets

ASTM A604

Macroetching / Microetching of metals and alloys

ASTM E340 · ASTM E407

Determination of chemical composition

ASTM E882 · ASTM E743 · ASTM E851

Currently under accreditation process

Fatigue crack growth rates

ASTM E647

Stress rupture test

ASTM E139

Tensile test at superhigh temperature

ASTM E21 · ISO 6892-2 · EN 2002-2

Chemical analysis for aeronautical use by ICP-OES, ICP-MS, ICP-OES with a hydride generator, elemental analyzers ·

Ni alloys

Accreditation and customer approval scope



Contact

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