

PERSONNEL CERTIFICATION & WELDING PROCESSES

The welding process is part of the special processes, i.e. the manufacturing processes of a product, the validity of which cannot be completely verified with a final inspection.

For a "normal" process, such as a profile cold cut, it is possible to verify the correct execution and result by means of a dimensional check. For a weld, a visual check and even a radiographic check can at most verify the correct geometry and highlight the absence or presence of any surface and internal defects of the joint, but not its mechanical and chemical properties, detectable only by destructive tests. Thus, it is necessary to proceed with the welding according to procedures, the results of which have already been verified by process qualification tests, according to recognised international standards. One or more tests are performed in the company of an appointed certifier, recording all the parameters used, and then performing the non-destructive and destructive tests required by the reference standard on these tests. The conformity of the test results makes it possible to use the qualified process in production, applying welding parameters that are consistent with those adopted for the test assays.

The current regulatory framework requires the qualification of welding procedures used by manufacturers in different areas, such as: pressure equipment, machinery, railway construction, structural carpentry, to name but a few.



Welders and Welding operators - Reference standards

ISO 9606	ISO 14732	ASME American Standard
Qualification test of welders - Fusion welding - Part 1: Steels	Welding personnel - Qualification tests of welding operators and welding preparers for fully mechanised and automatic welding of metallic materials	American Society of Mechanical Engineers - Certification of pressure components

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Welding processes - Reference standards

ISO 15614	ISO 15613	ASME and AWS American Standard
Specification and qualification of welding procedures for metallic materials	Specification and qualification of welding procedures for metallic materials - Qualification based on pre-production welding tests	American Society of Mechanical Engineers - Certification of pressure components American Welding Society - Certification of several types of products

Welders and Welding Operators - Certification Procedure

Step 1: DOCUMENTARY VERIFICATION

Verification of the technical documentation of the tests being performed:

- specific to the welding process (WPS),
- certificates for basic materials,
- Certificate of filler material (if applicable).

Step 2: MONITORING DURING THE PERFORMANCE OF THE TESTS

Verification, by inspectors who are qualified by the OdC, not only of the welder's knowledge but also of the correct application of the welding procedure specification (WPS) during the execution of the tests and inspection of the joint.

Step 3: SUPERVISION OF TEST LABORATORIES AND ISSUE OF CERTIFICATION

Supervision in the laboratory during the tests, and issue of the certificate of qualification of welders and / or welding operators.

Welding processes - Certification procedure

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- specific to the welding process (WPS),
- certificates for basic materials,
- Certificate of filler material (if applicable).

Step 2: MONITORING DURING THE PERFORMANCE OF THE TESTS

Verification, by inspectors who are qualified by the OdC, not only of the welder's knowledge but also of the correct application of the welding procedure specification (WPS) during the execution of the tests and inspection of the joint.

Step 3: SUPERVISION OF TEST LABORATORIES AND ISSUE OF CERTIFICATION

Laboratory monitoring during the tests, and issue of the certificate of qualification of the welding process (WPQR).