

WELDING

“A significant part of all metallic finished products and structures includes at least one weld. However, the material properties of finished welded joints cannot be determined solely by non-destructive testing. Ensuring the quality of welds relies, for that reason, heavily on validation, verification, documentation and control of the welding processes.”

(Source: ISO/TC 44 – Business plan – September 2019)



MAIN TECHNICAL COMMITTEES ON WELDING

- International level -

➤ ISO/IIW – International Institute of Welding

Standards

29

Projects

8

National delegates

0

Scope (Extract)

The International Institute of Welding was founded in 1948 by the welding institutes or societies in 13 countries, who felt the need to make possible more rapid scientific and technical progress. The technical field of the IIW encompasses the joining, cutting and surface treatment of metallic and non-metallic materials by such processes as welding, brazing, soldering, thermal cutting, thermal spraying, adhesive bonding, micro joining and embraces allied fields including quality assurance, non-destructive testing, standardization, inspection, health and safety, education, training, qualification, design and fabrication. (...)

➤ ISO/TC 44 – Welding and allied processes

Standards

321

Projects

41

National delegates

1

Scope

Standardization of welding, by all processes, as well as allied processes; these standards include terminology, definitions and the symbolic representation of welds on drawings, apparatus and equipment for welding, raw materials (gas, parent and filler metals) welding processes and rules, methods of test and control, calculations and design of welded assemblies, welders' qualifications, as well as safety and health. Excluded: electrical safety matters related to welding which are the responsibility of IEC / TC 26.

12 Subcommittees

SC 3	Welding consumables	SC 10	Quality management in the field of welding
SC 5	Testing and inspection of welds	SC 11	Qualification requirements for welding and allied processes personnel
SC 6	Resistance welding and allied mechanical joining	SC 12	Soldering materials
SC 7	Representation and terms	SC 13	Brazing materials and processes
SC 8	Equipment for gas welding, cutting and allied processes	SC 14	Welding and brazing in aerospace
SC 9	Health and safety	SC 15	Underwater welding

3 Working Groups

JAG 1	IIW – ISO/TC 44 – CEN/TC 121 Coordination Committee	WG 5	Welding simulation
TF 1	Review of ISO/TC 261 standards dealing with welding		

➤ IEC/TC 26 – Electric welding

Standards

29

Projects

4

National delegates

0

Scope

To prepare standards for electrical safety, EMC and EMF matters related to the construction, installation and use of equipment for electric welding and allied processes in both normal and adverse welding environments, taking into account all safety aspects for protection against electrical and mechanical hazards for professional and non-professional use and all aspects to protect the environment. All electric welding processes are covered except electromagnetic processing.

2 Working Groups

WG 1	Safety requirements for electric welding equipment	WG 5	EMC and EMF requirements for electric welding equipment
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- European level -

➤ CEN/TC 121 – Welding and allied processes

Standards

339

Projects

55

National delegates

2

Scope

Standardization of welding by all processes, as well as allied processes; these standards include terminology, definitions and the symbolic representation of welds on drawings, apparatus and equipment for welding, raw materials (gas, parent and filler metals) welding processes and rules, methods of inspection, testing and quality control, design of welded joints, qualification of welding personnel, as well as safety and health. Excluded: Electrical arc welding equipment and electrical safety matters related to welding which are the responsibility of CLC/TC 26; welding and brazing for aerospace application which is the responsibility of ASD-STAN/D4/WG4.

1 Subcommittee

SC 4 Quality management in the field of welding

4 Working Groups

WG 3 Welding consumables

WG 19 Equipment for gas welding, cutting and allied processes

WG 21 Testing of welds

WG 22 Electromagnetic pulse welding

➤ CLC/TC 26 – Electric welding

Standards

32

Projects

5

National delegates

0

Scope

To prepare standards for electrical safety, EMC and EMF matters related to the construction, installation and use of equipment for electric welding and allied processes in both normal and adverse welding environments, taking into account all safety aspects for protection against electrical and mechanical hazards for professional and non-professional use and all aspects to protect the environment. All electric welding processes are covered except electromagnetic processing.

2 Working Groups

WG 1 Safety requirements for electric welding equipment

WG 5 EMC and EMF requirements for electric welding equipment

MAIN STANDARDS ON WELDING

ICS	Designation	Published standards:		Electric welding	
		ISO	CEN	IEC	CENELEC
25.160	Welding, brazing and soldering	-	5	23	14
25.160.01	Welding, brazing and soldering in general Including welders' qualifications	54	35	-	-
25.160.10	Welding processes Including thermal cutting and cladding	87	112	1	-
25.160.20	Welding consumables Including electrodes, filler metals, gases, etc.	45	54	2	-
25.160.30	Welding equipment Including thermal cutting equipment	63	59	18	20
25.160.40	Welded joints and welds Including welding position and mechanical and non-destructive testing of welded joints	82	98	-	-
25.160.50	Brazing and soldering Including brazing and soldering alloys and equipment	26	32	-	-

