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QUALITY MANAGEMENT

OVERVIEW OF GLOBAL USED QUALITY MANAGEMENT SYSTEMS IN THE DIFFERENT FIELDS OF APPLICATION FOR WELDING AND ALLIED PROCESSES

SELECT COMMITTEE

ON QUALITY MANAGEMENT IN WELDING
AND ALLIED PROCESSES

Select Committee on Quality Management in Welding and Allied Processes

Chaired by Dr. Klaus Middeldorf

Overview of Global used Quality Management Systems

IN THE DIFFERENT FIELDS OF APPLICATION
FOR WELDING AND ALLIED PROCESSES



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Mission

"To act as the worldwide network for knowledge exchange of joining technologies to improve the global quality of life"

The International Institute of Welding (IIW) was founded in 1948 by the welding institutes/societies of 13 countries who considered it crucial to make more rapid scientific and technical progress possible on a global level. Their vision was for the IIW to be the international vehicle by which innovation and best joining practices could be promoted, while providing an international platform for the exchange and dissemination of evolving welding technologies and applications.

From its humble beginnings, the IIW is today a universal reference, recognized as the largest worldwide network for welding and allied joining technologies, boasting a current membership of 56 countries from the five continents. The IIW's Mission is to operate as the global body for the science and application of joining technology, providing a forum for networking and knowledge exchange among scientists, researchers and industry. Through the work of its 26 Technical Commissions and Working Units, the organization's technical focus 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 and microjoining. IIW work also embraces allied fields including quality assurance, non-destructive testing, standardization, inspection, health and safety, education, training, qualification, design and fabrication.

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Overview

of Global used Quality Management Systems in the different fields of Application for Welding and Allied Processes

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1. INTRODUCTION

The document contains an Overview of Global used Quality Management Systems in the different Fields of Application for Welding and allied Processes of the following countries: Japan, Germany, Finland, Canada, Sweden, Korea, Russia, USA, Slovakia, Czech Republic, Switzerland and China.

The document will be updated continuously if additional information will be received. Please contact the IIW SC Qual for any requests (www.iiwelding.org/WorkingUnits/Select_Committee_Qual).

About the authors:

SC Qual – Select Committee “Quality Management in welding and allied processes”

The topics covered in SC-QUAL focus on quality management and requirements for personnel involved in welding and allied processes. SC-QUAL develops guidelines on the implementation of standards as for example ISO 3834 “Quality requirements for fusion welding of metallic materials.”

At present the members of SC Qual discuss the minimum requirements for personnel who examine welding qualification tests and the requirements for welding coordinators. On the other hand SC Qual has collected information which gives a global overview of used quality management systems in different fields of applications.

In collaboration with Commission XIII, the experts of SC-QUAL are working on the link between the quality imperfections of ISO 5817 and the fatigue strength of a weld or welded structure to give guidance to the designers as well as to NDT personnel for evaluation.

Now SC-QUAL also cooperates with Commission VIII on health, safety and environment issues. It is the aim to develop arguments for management personnel of companies to realize the advantages of health and safety implementation. SC Qual is always interested to take over new tasks which will improve the exchange of knowledge between technical experts and quality managers and the production by using welding and allied processes. Therefore SC Qual developed the strategy to act as a kind of interdisciplinary body for IIW.

2. PRODUCT 1: STEEL STRUCTURES FOR CIVIL ENGINEERING APPLICATION

PRODUCT 1: Steel structures for civil engineering application									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT supervisor (inspector)	
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel		
Japan	Buildings: The Building Standards Act	Buildings: Technical Standards for Public Buildings	No	Standard Welding Process : No	Yes	Yes	Yes	No	
	Bridges: Road Traffic Act	Bridges: Technical Standards for Road Bridges	No	Other Welding Process : Yes	Yes	Yes	Yes	No	
Germany	MBO/LBO, Bauregelliste, Musterliste der Technischen Baubestimmungen, Bauproduktenverordnung (Regulation (EU) No. 305/2011)	DIN 18800-7 (General), DIN - Fachberichte 103 and 104 (Bridges), ZTV-ING (Roadbridges), Ril 804 (Railway – Bidges) and EN 1090-1 and -2	Yes	Yes	Yes	Yes	Yes	Yes	

Table 1:
Steel structures for civil engineering application

PRODUCT 1: Steel structures for civil engineering application								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT supervisor (inspector)
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	
Finland		EN 1090-1 and -2	Yes	Yes	Yes	Yes	Yes	No
Canada	Buildings: National Building Code of Canada (and Provincial Building Codes)	CSA W47.1 through reference in CSA S16-01 and CSA S136.	Yes	Yes	Yes	Yes	No	No
	Bridges: Provincial Highway Acts	CSA W47.1 through reference in CSA S6	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	BKR (legal requirements). BSK (handbook) http://www.boverket.se/upload/publicerat/bifoga_de%20filer/2003/bsk_uk.pdf	In future EN 1090-1 and -2	Yes	Yes	Yes	Yes	Yes	No

Table 1:

Steel structures for civil engineering application

PRODUCT 1: Steel structures for civil engineering application								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)
Korea	KBC 2007		Yes	Yes	No	No	Yes	No
Russia	Technical regulations	safety rules GOSTR, sectorial rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes	Yes
USA	Buildings - Through local adoption of International Building Code, cited in AISC Specification for Structural Steel Buildings	AWS D1.1/D1.1M Structural Welding Code - Steel	No	If not prequalified	Yes, employer based	no	Yes, employer based	Yes, employer based
	Bridges - Through state departmental requirements	AWS D1.1M/D1.5 Bridge Welding Code	YES, AISC	Yes, with exceptions for some MMAW	Yes, employer based	No, except for fracture critical members	Yes, employer based	Yes, employer based

Table 1:
Steel structures for civil engineering application

PRODUCT 1: Steel structures for civil engineering application								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT supervisor (inspector)
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	
Czech Republic	Building Law + Statutory rules for Buildings	EN 1090-1 and -2 ČSN 732603 –Steel bridge structure (Complementary Specification for Execution, Quality control and Inspections)	yes	yes	yes	yes	yes	yes
Slovakia	Building Law + Statutory rules for Buildings	EN 1090-1 , -2 STN 732603 –Steel bridge structure (Complementary Specification for Execution, Quality control and Inspections)	yes	yes	yes	yes	yes	yes
Switzerland	Bauproduktengesetz SR 933.0 und –verordnung SR 933.01	SIA 263 (and EN 1090 in preparation)	yes	Yes	Yes	yes	yes	no
China	Code for welding of steel structures	GB 50661-2011	yes	yes	yes	yes	yes	yes

Table 1:
Steel structures for civil engineering application

3. PRODUCT 2: ALUMINIUM STRUCTURES FOR CIVIL ENGINEERING APPLICATION

PRODUCT 2: Aluminium structures for civil engineering application									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT personnel	NDT supervisor (inspector)
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel		
Japan	—	Design, manufacturing and construction guide line for steel girder bridge using aluminium floor panels.	No	Yes	No	Yes	No	No	No
Germany	MBO/LBO, Bauregelliste, Musterliste der Technischen Baubestimmungen	DIN V 4113-3 [and EN 1090-1 and EN 1090-3]	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Finland		EN 1090-1 and -3	Yes	Yes	Yes	Yes	Yes	No	No
Canada	National Building Code of Canada (and Provincial Building Codes)	CSA W47.2 through reference in CSA S157.	Yes	Yes	Yes	Yes	No	No	No
Sweden	BKR (legal require-ments). BSK (handbook) http://www.boverket.se/upload/publicerat/bifoga_de%20filer/2003/bsk_uk.pdf	In future EN 1090-1 and -3	Yes	Yes	Yes	Yes	Yes	No	No

Table 2:
Aluminium structures
for civil engineering
application

PRODUCT 2: Aluminium structures for civil engineering application									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:						
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)	
Korea			No	No	No	No	No	No	
USA	Not addressed in International Building Code	AWS D1.2 Structural Welding Code - Aluminum	No	Yes	Yes, employer based	No	Yes, employer based	Yes, employer based	
Russia	Technical regulations	safety rules GOSTR, sectorial rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes	Yes	
Czech Republic	Building Law + Statutory rules for Buildings	EN 1090-1 and -3	yes	yes	yes	yes	yes	yes	
Slovakia	Building Law + Statutory rules for Buildings	EN 1090-1 and -3	yes	yes	yes	yes	yes	yes	
Switzerland	Bauproduktengesetz SR 933.0 und –verordnung SR 933.01	(EN 1090 in preparation)	No	No	No	No	No	No	

Table 2:
Aluminium structures
for civil engineering
application

4. PRODUCT 3: PRESSURE EQUIPMENT

PRODUCT 3: Pressure Equipment							
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:				
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel
Japan	Industrial Safety and Health Act	Rules for Safety of Boiler and Pressure Vessel	No	Yes	Yes	No	Yes
Germany	European Directive for Pressure Equipment (PED)	EN 13445, AD 2000, etc. for pressure vessels, EN 13480 or AD 2000 for pipings	No (conformity assessment procedures can be chosen by the manufacturer according to the product category, not for suppliers / if working acc. to AD2000 certification AD2000 HP0 required)	Yes	Yes	No acc. to published issue of EN 13445 - Yes acc. to AD2000	Yes
Finland	European Directive for Pressure Equipment (PED)	EN 13445	No	Yes	Yes	No	Yes
Canada	Provincial Legislation	ASME Section IIX and IX	No	Yes	Yes	Yes	Yes

Table 3:
Pressure equipment

PRODUCT 3: Pressure Equipment								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)
Sweden	AFS 1999:4 (PED), www.av.se	EN 13445	No	Yes	Yes	No	Yes	Yes
Korea	Electricity Business Act	KEPIC	Yes	Yes	Yes	No	Yes	No
	High Pressure Gas Safety and Management Law		Yes	Yes	Yes	No	Yes	No
USA	Local adoption of International Mechanical Code	ASME Section XIII and XIII	No, except by local ordinance	Yes, with exceptions	Yes, employer based	No	Yes, employer based	Yes, employer based
Russia	Technical regulations	safety rules GOSTR, sectoral rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes	Yes

Table 3:
Pressure equipment

PRODUCT 3: Pressure Equipment									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:						
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)	
Czech Republic	European Directive for Pressure Equipment (PED)	EN 13445 EN 13480	No (only required for manufacturers in the sence of PED)	Yes	Yes	No	Yes	Yes	
Slovakia	European Directive for Pressure Equipment (PED)	EN 13445 EN 13480	No	Yes	Yes	No	Yes	Yes	
Switzerland	European Directive for Pressure Equipment (PED)	EN 13445 EN 13480 AD 2000 etc., (Swiss code SVTI not maintained)	Yes	Yes	Yes	Yes	Yes	Yes	
China	Pressure vessels - Part 4: Fabrication, inspection and testing, and acceptance	GB 150.4-2011	Yes	Yes	Yes	Yes	Yes	Yes	

Table 3:
Pressure equipment

5. PRODUCT 4: BOILERS

PRODUCT 4: Boilers									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT personnel	NDT supervisor (inspector)
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator			
Japan	Industrial Safety and Health Act	Rules for Safety of Boiler and Pressure Vessel	No	Yes	Yes	No	Yes	No	
Germany	European Directive for Pressure Equipment (PED)	EN 12952 (Water-tube boilers) or EN 12593 (Shell boilers)	Yes (only required for manufacturers in the sense of PED, not for suppliers)	Yes	Yes	No acc. to published issue of EN 12952 + EN 12953	Yes	Yes	
Finland	European Directive for Pressure Equipment (PED)	EN 12952 or EN 12953	Yes (only required for manufacturers in the sense of PED, not for suppliers)	Yes	Yes	No acc. to published issue of EN 12952 + EN 12953	Yes	Yes	
Canada	Provincial Legislation	ASME Section IIX and IX	No	Yes	Yes	No	Yes	Yes	
Sweden	European Directive for Pressure Equipment (PED)	EN 12952 or EN 12953	Yes (only required for manufacturers in the sense of PED, not for suppliers)	Yes	Yes	No acc. to published issue of EN 12952 + EN 12953	Yes	Yes	

Table 4:
Boilers

PRODUCT 4: Boilers									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:						
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)	
Korea	Electricity Business Act	KEPIC	Yes	Yes	Yes	No	Yes	No	
	High Pressure Gas Safety Management Law		Yes	Yes	Yes	No	Yes	No	
USA	Local adoption of International Mechanical Code	ASME Section I and IV	No, except by local ordinance	Yes, with exceptions	Yes, employer based	No	Yes, employer based	Yes, employer based	
Russia	Technical regulations	safety rules GOSTR, sectorial rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes	Yes	
Czech Republic	European Directive for Pressure Equipment (PED)	EN 12952 (Water-tube boilers) or EN 12953 (Shell boilers)	Yes (only required for manufacturers in the sense of PED)	Yes	Yes	No acc. to published issue of EN 12952 + EN 12953	Yes	Yes	

Table 4:
Boilers

PRODUCT 4: Boilers							
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:				
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel NDT supervisor (inspector)
Slovakia	European Directive for Pressure Equipment (PED)	EN 12952 (Water-tube boilers) or EN 12953 (Shell boilers)	Yes (only required for manufacturers in the sense of PED)	Yes	Yes	No acc. to published issue of EN 12952 + EN 12953	Yes
Switzerland	European Directive for Pressure Equipment (PED)	EN 12952 EN 12953	Yes (only required for manufacturers in the sense of PED)	Yes	Yes	No acc. to published issue of EN 12952 + EN 12953	Yes
China	Rules for construction of stationary boilers	GB/T 16507-1996	Yes	Yes	Yes	Yes	Yes

Table 4:
Boilers

6. PRODUCT 5: RAILWAY VEHICLES

PRODUCT 5: Railway Vehicles									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					Welding coordinator	NDT personnel
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel		
Japan	—	No	No	Yes	Yes	Yes	No	No	No
Germany	Eisenbahnbundesamt Letter 35.18 – 35Xff/001-0001#001, dated 26.02.2008	EN 15085	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Finland		EN 15085	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canada	No mandatory requirement however the noted standards are voluntarily utilized.	CSA W47.1 and CSA W59	Yes	Yes	Yes	Yes	No	No	No
Sweden	JvsFS (www.jvs.se)	EN 15085	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Korea	Korea Railroad Cooperation Law	-	-	-	-	-	-	-	-

Table 5:
Railway vehicles

PRODUCT 5: Railway Vehicles									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					Welding coordinator	NDT personnel
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel		
USA	none	Typically AWS D1.1/D1.1M Structural Welding Code Steel – also, D15.1: 2001 Railroad Welding Specification – Cars and Locomotives	no	If not prequalified	Yes, employer based	no	Yes, employer based	Yes, employer based	Yes, employer based
Russia	Technical regulations	safety rules GOSTR, sectorial rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Czech Republic	Railway Law	EN 15085	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Slovakia	Railway Law	EN 15085	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Switzerland	No legal requirement, but widely implemented on contractual basis	EN 15085	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 5:
Railway vehicles

PRODUCT 5: Railway Vehicles								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)
China	Railway applications - Welding of railway vehicles and components - Part 1: General	GB/T 25343.1-2010	Yes	Yes	Yes	Yes	Yes	Yes
	Railway applications - Welding of railway vehicles and components - Part 2: Quality requirements and certification of welding manufacturer	GB/T 25343.2-2010	Yes	Yes	Yes	Yes	Yes	Yes
	Railway applications - Welding of railway vehicles and components - Part 3: Design requirements	GB/T 25343.3-2010	Yes	Yes	Yes	Yes	Yes	Yes
	Railway applications - Welding of railway vehicles and components - Part 4: Production requirements	GB/T 25343.4-2010	Yes	Yes	Yes	Yes	Yes	Yes

Table 5:
Railway vehicles

PRODUCT 5: Railway Vehicles							
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:				
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel
China	Railway applications - Welding of railway vehicles and components - Part 5: Inspection, testing and documentation	GB/T 25343.5-2010	Yes	Yes	Yes	Yes	Yes

Table 5:
Railway vehicles

7. PRODUCT 6: PIPELINES (GASEUS AND LIQUID)

PRODUCT 6: Pipelines (gaseous and liquid)									
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT supervisor (inspector)	
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel		
Japan	Gas Business Act	Technical Standards for gas facilities	No	Yes	Yes	No	Yes	No	
Germany	DVGW-rules	DVGW-GW-301	Yes (acc. to GW 301)	Yes	Yes	Yes	Yes	Yes	
Finland		EN 13480 (?)	No	Yes	Yes	Yes	Yes	No	
Canada	Provincial Legislation	Typically CSA Z662, ASME B31.1, ASME B31.3.	No	Yes	Yes	No	Yes	Yes	
Sweden		EN 13480 (?)	No	Yes	Yes	Yes	Yes	No	

Table 6:
Pipelines
(gaseous and liquid)

PRODUCT 6: Pipelines (gaseous and liquid)								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)
Korea	High Pressure Gas Safety Control Law	High Pressure Gas Safety Control Act/ KGS Code	Yes	Yes	Yes	No	Yes	No
Korea	LP Gas Safety and Business Management Law		Yes	Yes	Yes	No	Yes	No
USA	Local Authorities	Water -- AWWA C206-03 Field Welding of Steel Water Pipe	no	If not prequalified	Yes, employer based	no	Yes, employer based	Yes, employer based
USA	Local or Federal Authorities	Gas and Oil – API 1104-10 Welding of Pipelines and Related Facilities	no	If not prequalified	Yes, employer based	no	Yes, employer based	Yes, employer based

Table 6:
Pipelines
(gaseous and liquid)

PRODUCT 6: Pipelines (gaseous and liquid)							
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:				
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel
Russia	Technical regulations	safety rules GOSTR, sectoral rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes
Czech Republic		EN 13480	No	Yes	Yes	Yes	No
Slovakia		EN 13480	No	Yes	Yes	Yes	No
Switzerland	By law, SVTI Rohrleitungsinspektorat	SVTI rules	Yes	Yes	Yes	Yes	Yes
China	Pressure piping code - Industrial piping - Part 4: Fabrication and assembly	GB/T 20801.4-2006	Yes	yes	yes	yes	-

Table 6:
Pipelines
(gaseous and liquid)

8. PRODUCT 7: NUCLEAR POWER PLANTS

PRODUCT 7: Nuclear power plants								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					NDT supervisor (inspector)
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	
Japan	Electricity Business Act Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors	Technical Standards for electric facilities	No	Yes	Yes	No	Yes	No
Germany	Atomgesetz	Sicherheits-technische Regeln des kerntechnischen Ausschusses KTA 3201.3 KTA 3211.3 KTA 3401.3	Yes (KTA 1408.1)	Yes	Yes	Yes	Yes	Yes
Finland	YVL-Directive		Yes	Yes	Yes	Yes	Yes	Yes
Canada	Provincial regulatory bodies	Typically CSA B51, CSA N285.6, ASME B31.1, ASME B31.3, ASME 111	No	Yes	Yes	No	Yes	Yes

Table 7:
Nuclear power plants

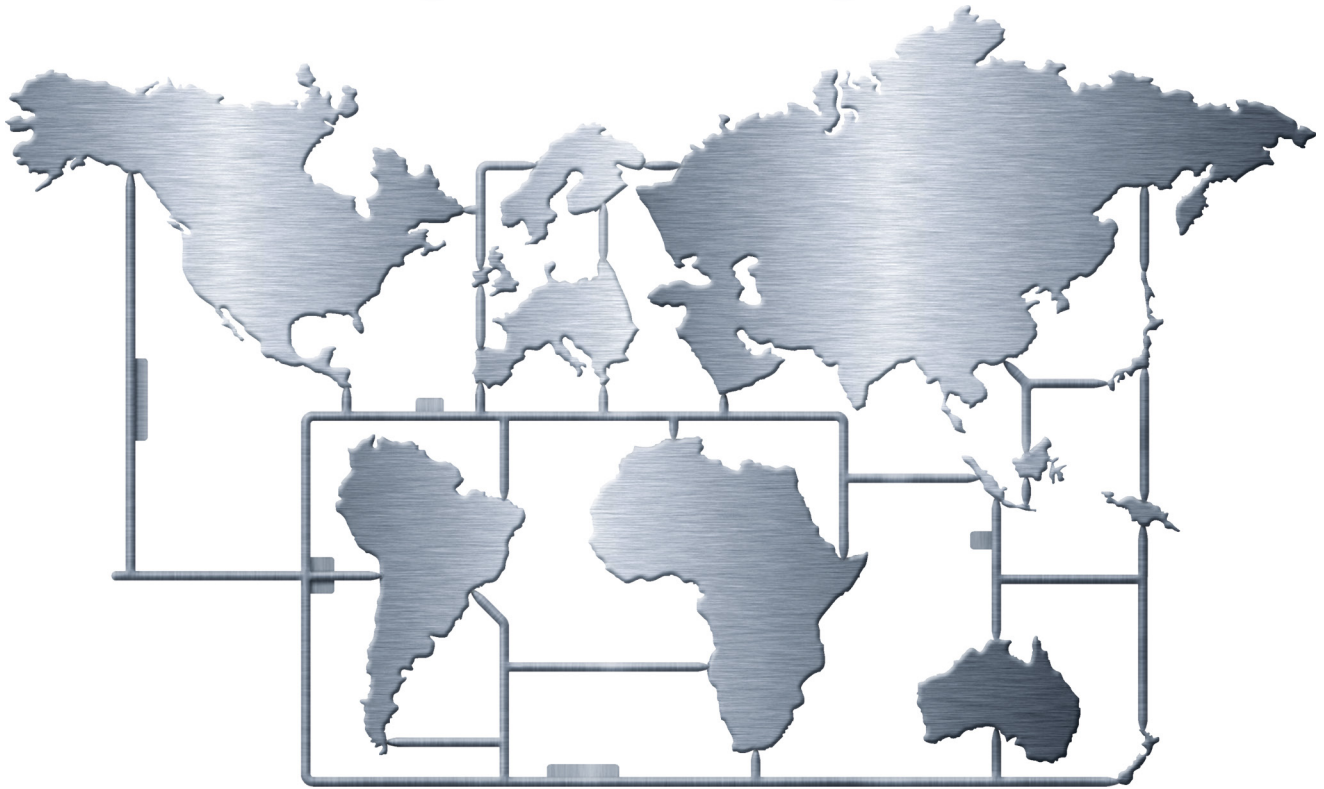
PRODUCT 7: Nuclear power plants								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)
Sweden	SKIFS 2005:2 (www.ski.se)		No (?)	Yes	Yes	Yes	Yes	Yes
Korea	Nuclear Law	KEPIC	Yes	Yes	Yes	No	Yes	Yes
	Electric Business Act	Electro technical regulation (for nuclear pipeline)	Yes	Yes	Yes	No	Yes	No
USA	US Nuclear Regulatory Commission	ASME BPVC Section III and XI, ASME Power Piping B31.1	Typically, Yes	Yes	Yes	No	Yes	Yes
Russia	Technical regulations	safety rules GOSTR, sectorial rules, (Basis; International standards)	Yes	Yes	Yes	Yes	Yes	Yes

Table 7:
Nuclear power plants

PRODUCT 7: Nuclear power plants								
Country	Reference to national or regional mandatory by law requirement	Product technical standard	Requirements for:					
			Certification of manufacturer	Procedure qualification	Welder and operator qualification	Welding coordinator	NDT personnel	NDT supervisor (inspector)
Czech Republic	Nuclear Law	Technical standards for nuclear facilities	Yes	Yes	Yes	Yes	Yes	Yes
Slovakia	Nuclear Law	Technical standards for nuclear facilities	Yes	Yes	Yes	Yes	Yes	Yes
Switzerland	By law, SVTI Nuklearinspektorat	SVTI rules	Yes	Yes	Yes	Yes	Yes	Yes
China	Welding Code for mechanical components of PWR nuclear islands	EJ 1027.1-19-1996	Yes	Yes	Yes	Yes		

Table 7:
Nuclear power plants

Linking people, joining nations



Membership is open to no-profit organizations or research institutes, with the possibility of multiple members per country.

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ABSTRACT

The document contains an Overview of Global used Quality Management Systems in the different Fields of Application for Welding and allied Processes of the following countries: Japan, Germany, Finland, Canada, Sweden, Korea, Russia, USA, Slovakia, Czech Republic, Switzerland and China

The document will be updated continuously, if additional information will be received. Please contact the IIW SC Qual Chair for any requests (http://www.iiwelding.org/WorkingUnits/Select_Committee_Qual).

KEYWORDS

Quality Management System,
Welding, Processes, Application,
Global, Steel structures,
Aluminium structure, Pressure Equipment,
Boilers, Railway Vehicles,
Pipelines, Nuclear power plants