
Welding — Grouping systems for materials — Japanese materials

*Soudage — Systèmes de groupement des matériaux — Matériaux
japonais*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Quality management in the field of welding*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO/TR 20174:2005), which has been technically revised.

The main change compared to the previous edition is the revision of [Tables 1](#) to [3](#).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at <https://www.iso.org/members.html>.

Official interpretations of ISO/TC 44 documents, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

Welding — Grouping systems for materials — Japanese materials

1 Scope

This document provides a Japanese grouping system for materials for welding purposes, classified in accordance with the grouping system of ISO/TR 15608.

It can also apply for other purposes, such as heat treatment, forming, and non-destructive testing.

Types of steels are listed in accordance with the grouping system of ISO/TR 15608:2017, Table 1.

Types of aluminium and aluminium alloys are listed in accordance with the grouping system of ISO/TR 15608:2017, Table 2.

Types of titanium and titanium alloys are listed in accordance with the grouping system of ISO/TR 15608:2017, Table 5.

This document covers grouping systems for the following standardized materials:

- steels;
- aluminium and its alloys;
- titanium and its alloys.

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2 Normative references

<https://standards.iteh.ai/catalog/standards/sist/8f09df0d-90af-442e-bcb0-39b17ec0c0e1/iso-tr-20174-2020>

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Japanese grouping system for materials

4.1 Types of steels in accordance with the grouping system of ISO/TR 15608:2017, Table 1

See [Table 1](#).

Table 1 — Japanese grouping system for steels

Group	Reference standard	Designation
1.1	JIS G 3101	SS330
		SS400
	JIS G 3103	SB410
		SB450
		SB480
		SB450M
		SB480M
	JIS G 3106	SM400A
		SM400B
		SM400C
	JIS G 3113	SAPH310
	JIS G 3116	SG255
	JIS G 3115	SPV235
	JIS G 3118	SGV410
		SGV450
		SGV480
	JIS G 3126	SLA235A
		SLA235B
	JIS G 3131	SPHC
		SPHD
		SPHE
		SPHF
	JIS G 3135	SPFC340
		SPFC370
		SPFC390
		SPFC440
		SPFC490Y
		SPFC540Y
SPFC590Y		
SPFC340H		
JIS G 3136	SN400A	
	SN400B	
	SN400C	
JIS G 3444	STK290	
	STK400	
JIS G 3452	SGP	
JIS G 3454	STPG370	
	STPG410	
JIS G 3455	STS370	
	STS410	
	STS480	

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Table 1 (continued)

Group	Reference standard	Designation
1.1	JIS G 3456	STPT370
		STPT410
		STPT480
	JIS G 3457	STPY400
	JIS G 3458	STPA12
	JIS G 3460	STPL380
	JIS G 3461	STB340
		STB410
	JIS G 3462	STBA12
		STBA13
	JIS G 3464	STBL380
	JIS G 3467	STF410
		STFA12
	JIS G 3472	STAM290GA
		STAM290GB
		STAM340G
		STAM390G
	JIS G 3473	STC370
	JIS G 3475	STKN400W
		STKN400B
	JIS G 3201	SF340A
		SF390A
		SF440A
		SF490A
		SF540A
	JIS G 3202	SFVC1
SFVC2A		
SFVC2B		
JIS G 3203	SFVAF1	
JIS G 3205	SFL1	
	SFL2	
1.2	JIS G 3101	SS490
	JIS G 3106	SM490A
		SM490B
		SM490C
		SM490YA
		SM490YB

Table 1 (continued)

Group	Reference standard	Designation
1.2	JIS G 3115	SPV315
		SPV355
	JIS G 3116	SG295
		SG325
	JIS G 3119	SBV1A
		SBV1B
	JIS G 3120	SQV1A
		SQV2A
	JIS G 3126	SLA325A
		SLA325B
	JIS G 3134	SPFH490
		SPFH540
		SPFH540Y
		SPFH590Y
	JIS G 3135	SPFC490
		SPFC540
		SPFC590
	JIS G 3136	SN490B
	JIS G 3444	SN490C
		STK500
	JIS G 3461	STK490
		STB510
	JIS G 3472	STAM440G
		STAM470G
		STAM500G
		STAM440H
	JIS G 3473	STC440
JIS G 3475	STKN490B	
JIS G 3201	SF540B	
	SF590A	
	SF590B	
JIS G 3204	SFVQ1A	
1.3	JIS G 3106	SM520BN
		SM520CN
	JIS G 3113	SAPH370
		SAPH400
		SAPH440
	JIS G 3115	SPV450N
		SPV490N
	JIS G 3124	SEV245N
		SEV295N
		SEV345N

Table 1 (continued)

Group	Reference standard	Designation
1.4	JIS G 3114	SMA400AW
		SMA400AP
		SMA400BW
		SMA400BP
		SMA400CW
		SMA400CP
		SMA490AW
		SMA490AP
		SMA490BW
		SMA490BP
		SMA490CW
		SMA490CP
2.1	JIS G 3106	SM490YATMC
		SM490YBTMC
		SM520BTMC
		SM520CTMC
		SM570TMC
	JIS G 3114	SMA490AWTMC
		SMA490APTMC
		SMA490BWTMC
		SMA490BPTMC
		SMA490CWTMC
		SMA490CPTMC
		SMA570WTMC
		SMA570PTMC
		JIS G 3115
	SPV450TMC	
	JIS G 3129	SH590P-TMC
		SH590S-TMC
	JIS G 3140	SBHS400
SBHS400W		
2.2	JIS G 3115	SPV490TMC
	JIS G 3140	SBHS500
		SBHS500W

Table 1 (continued)

Group	Reference standard	Designation
3.1	JIS G 3106	SM570Q
	JIS G 3114	SMA570WQ
		SMA570PQ
	JIS G 3115	SPV410Q
		SPV450Q
		SPV490Q
	JIS G 3120	SQV1B
		SQV2B
		SQV3A
		SQV3B
	JIS G 3128	SHY685
		SHY685N
		SHY685NS
		SHY685NS-F
	JIS G 3201	SF640B
JIS G 3204	SFVQ1B	
	SFVQ2B	
	SFVQ3	
3.2	JIS G 3140	SBHS700
		SBHS700W
4.2	JIS G 3458	STPA20
	JIS G 3462	STBA20
	JIS G 3203	SFVAF2
5.1	JIS G 3458	STPA22
		STPA23
	JIS G 3462	STBA22
		STBA23
	JIS G 3467	STFA22
		STFA23
	JIS G 4109	SCMV11
		SCMV12
		SCMV21
		SCMV22
		SCMV31
		SCMV32
JIS G 3203	SFVAF12	
	SFVAF11A	
	SFVAF11B	

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Table 1 (continued)

Group	Reference standard	Designation
5.2	JIS G 3458	STPA24
	JIS G 3462	STBA24
	JIS G 3467	STFA24
	JIS G 4109	SCMV41
		SCMV42
		SCMV51
		SCMV52
	JIS G 4110	SCMQ4E
	JIS G 3203	SFVAF22A
		SFVAF22B
SFVAF21A		
SFVAF21B		
JIS G 3206	SFVCMF22B	
5.3	JIS G 3458	STPA25
	JIS G 3462	STBA25
	JIS G 3467	STFA25
	JIS G 4109	SCMV61
		SCMV62
	JIS G 3203	SFVAF5A
SFVAF5B		
SFVAF5C		
5.4	JIS G 3458	STPA26
	JIS G 3462	STBA26
	JIS G 3467	STFA26
	JIS G 3203	SFVAF9
6.2	JIS G 4110	SCMQ4V
		SCMQ5V
	JIS G 3206	SFVCMF22V
SFVCMF3V		
7.1	JIS G 4304	SUS405
		SUS410L
		SUS429
		SUS430
		SUS430LX

Table 1 (continued)

Group	Reference standard	Designation
7.1	JIS G 4304	SUS430J1L
		SUS434
		SUS436L
		SUS436J1L
		SUS443J1
		SUS444
		SUS445J1
		SUS445J2
		SUS447J1
		SUSXM27
7.1	JIS G 4305	SUS405
		SUS410L
		SUS429
		SUS430
		SUS430LX
		SUS430J1L
		SUS434
		SUS436L
		SUS436J1L
		SUS443J1
		SUS444
		SUS445J1
		SUS445J2
7.1	JIS G 3446	SUS430TKA
		SUS430TKC
7.1	JIS G 3463	SUS405TB
		SUS409TB
		SUS409LTB
		SUS430TB
		SUS430LXTB
		SUS430J1LTB
		SUS436LTB
		SUS444TB
		SUSXM8TB
		SUSXM27TB

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