



## Information on the scope of certified materials

### 1. Certified materials groups and additional materials groups covered in accordance with CEN ISO/TR 15608

In addition to the tested materials groups and/or materials listed under "Scope of approval certificate", the following materials groups and/or materials are also considered to be covered by the approval certificate.

#### Annex 3, Table 1: Unalloyed and low-alloy steels, cast steel, fine grain structural steels

Certified materials group	Material designation according to selected DIN EN materials standards <sup>1)</sup>	Applicable materials groups according to CEN ISO/TR 15608
<b>Materials group 1 as defined in CEN ISO/TR 15608</b> (unalloyed steels with $R_{eH} \leq 460$ MPa)		
1.1	S235JR to S275J2+N DIN EN 10025-2 S275N DIN EN 10025-3 S275M DIN EN 10025-4	1.1
1.2	S235JR to S355K2 DIN EN 10025-2 S275N to S355N or NL <sup>2)</sup> DIN EN 10025-3 S275M to S355M or ML <sup>2)</sup> DIN EN 10025-4 GE200, GE240 DIN EN 10293 B500A, B500B DIN 488-1	1.1, 1.2
1.3	S235JR to S355K2 DIN EN 10025-2 S275N to S460N or NL <sup>2)</sup> DIN EN 10025-3 S275M to S460M or ML <sup>2)</sup> DIN EN 10025-4 GE200, GE240 DIN EN 10293 B500A, B500B DIN 488-1 <sup>4)</sup>	1.1, 1.2, 1.3, 2.1
1.4	S235JR to S355K2 DIN EN 10025-2 S275N to S355N or NL <sup>2)</sup> DIN EN 10025-3 S275M to S355M or ML <sup>2)</sup> DIN EN 10025-4 S275J0W - S355J2W DIN EN 10025-5 GE200, GE240 DIN EN 10293	1.1, 1.2, 1.4
<b>Materials group 2 as defined in CEN ISO/TR 15608</b> (Thermomechanically treated fine grain steels with $R_{eH} > 360$ MPa)		
2.1	S420M to S460M or ML <sup>2)</sup> DIN EN 10025-4 S355MC to S460MC DIN EN 10149-2	1.1, 1.2, 1.3, 2.1
2.2	S500MC to S700MC DIN EN 10149-2	1.2, 1.3, 2.1, 2.2 <sup>3)</sup>
<b>Materials group 3 as defined in CEN ISO/TR 15608</b> (quenched and tempered fine grain steels with $R_{eH} > 360$ MPa)		
3.1	S460Q to S690Q, QL or QL <sup>1)</sup> DIN EN 10025-6	1.2, 1.3, 2.1, 2.2, 3.1 <sup>3)</sup>
3.2	S890Q to S960Q, QL or QL <sup>1)</sup> DIN EN 10025-6	2.2, 3.1, 3.2 <sup>3)</sup>
<b>Materials group 11 as defined in CEN ISO/TR 15608</b> (unalloyed steels with carbon content $> 0.25\%$ )		
11	E295 to E360 DIN EN 10025-2 C35 to C60 DIN EN 10083-2 GE300 DIN EN 10293	11

<sup>1)</sup> In addition to the steels listed, all unalloyed steels in the same strength class but designated in accordance with another steels standard are also considered to be covered by the approval certificate. This also applies to steels supplied in different delivery conditions (e.g. S690Q DIN EN 10025-6 also includes S700MC DIN EN 10149-2).

<sup>2)</sup> The approval certificate applies to steels with the delivery condition codes NL, ML or QL only if the required Charpy V-notch impact energy is included as part of the relevant standardised material designation.

<sup>3)</sup> The approval certificate only applies to materials that lie within the range for the upper yield strength ( $R_{eH}$ ).

<sup>4)</sup> The approval certificate also applies to the welding of load-bearing butt-welded joints in reinforcing steel (as specified in DIN EN ISO 17660-1, section 7.2) if in the relevant standardised material designation the code number indicating yield strength is at least "50".

**Annex 3, Table 2: Stainless steels**

Certified materials group	Material designation according to selected DIN EN materials standards <sup>3)</sup>	Applicable materials groups according to CEN ISO/TR 15608
<b>Materials group 7 as defined in CEN ISO/TR 15608</b> (ferritic, martensitic stainless steels)		
7.1	X2CrNi12 (1.4003) DIN EN 10088 X2CrTi12 (1.4512) DIN EN 10088 X5CrNiMoTi 15-2 (1.4589) DIN 5512-3	7.1
<b>Materials group 8 as defined in CEN ISO/TR 15608</b> (austenitic stainless steels)		
8.1 without Mo	X5CrNi18-10 (1.4301) DIN EN 10088 X2CrNiN18-7 (1.4318) DIN EN 10088 X6CrNiTi18-10 (1.4541) DIN EN 10088 X6CrNiNb18-10 (1.4550) DIN EN 10088	8.1 without Mo
8.1	X5CrNi18-10 (1.4301) DIN EN 10088 X6CrNiTi18-10 (1.4541) DIN EN 10088 X6CrNiNb18-10 (1.4550) DIN EN 10088 X5CrNiMo17-12-2 (1.4401) DIN EN 10088 X6CrNiMoTi17-12-2 (1.4571) DIN EN 10088 X5CrNiMoTi15-2 (1.4589) DIN EN 10088	8.1, 8.1 without Mo
<b>Werkstoffgruppe 10 in Anlehnung an CEN ISO/TR 15608</b> (Austenitische ferritische nichtrostende Stähle (Duplex))		
10.1	X2CrNiMoN22-5-3 8 (1.4462) DIN EN 10088	10.1
10.2	X2CrNiMoN25-7-4 (1.4410) DIN EN 10088	10.2

<sup>3)</sup> In addition to the steels listed, all steels in the same materials group are also considered to be covered by the approval certificate.

**Annex 3, Table 3: Aluminium and aluminium alloys as per DIN EN 573)**

Filler metal as per DIN EN ISO 18273	Certified materials	Other materials covered by the approval cert.	Materials group according to CEN ISO/TR 15608
S Al 5556A (AlMg5Mn) or S Al 5356 (AlMg5Cr(A)) or S Al 5087 (AlMg4,5MnZr) or S Al 5183 (AlMg4,5Mn0,7(A))	EN AW-5083 EN AW-7020	EN AW-5049 [Al Mg2Mn0,8] EN AW-5052 [Al Mg2,5] EN AW-5754 [Al Mg3] EN AW-5083 [Al Mg4,5Mn0,7] EN AW-5019 [Al Mg5] EN AW-6060 [Al MgSi] EN AW-6063 [Al Mg0,7Si] EN AW-6005A [Al SiMg] EN AW-6082 [Al Si1MgMn] EN AW-7020 [Al Zn4,5Mg1]	22.2, 22.3, 22.4 23.1, 23.2
S Al 5754 (AlMg 3)	EN AW-5754	EN AW-5052 [Al Mg2,5] DIN EN AW-5754 [Al Mg3]	22.3
S Al 4043 (AlSi5) or S Al 4043A (AlSi5(A))	EN AW-6005A	EN AW-6005A [Al SiMg] EN AW-6060 [Al MgSi] EN AW-6063 [Al Mg0,7Si] EN AW-6082 [Al Si1MgMn]	23.1
	AlSi casting alloys up to 7% Si	AlSi and AlSiMg casting alloys	24.1, 24.2
		Al casting alloys in combination with Al wrought alloys	22.1-22.4 / 24.1-24.2 23.1-23.2 / 24.1-24.2
S Al1450 (Al 99,5Ti)	EN AW-1050A	EN AW-1098 [Al 99,98] EN AW-1080A [Al 99,8] EN AW-1050A [Al 99,5] EN AW-1200 [Al 99,0]	21

**Annex 3, Table 4: Group classification for cast iron**

<b>Certified materials group</b>	<b>Material designation according to selected DIN EN materials standards</b>	<b>Applicable materials groups as defined in CEN ISO/TR 15608</b>
<b>Materials group 71 as defined in CEN ISO/TR 15608</b> (lamellar graphite cast iron / grey cast iron)		
71	EN-GJL-100 to DIN EN-GJL-350 DIN EN 1561	71
<b>Materials group 72 as defined in CEN ISO/TR 15608</b> (spheroidal graphite cast iron)		
72	EN-GJS-350 to DIN EN-GJS-900 DIN EN 1563	72
<b>Materials group 73 as defined in CEN ISO/TR 15608</b> (malleable cast iron)		
73	EN-GJMW-350 to DIN EN-GJMW-800 DIN EN 1562	73

**2 Joints between dissimilar materials**

Joints between dissimilar materials between materials made from the same or different materials groups are permissible if:

- The materials groups being welded are listed in the approval certificate (individually or in combination),  
or
- With the combination CrNi steels / unalloyed steels, the material combination is listed in the approval certificate.

**3 Scope of approval certificate in the case of cold-wire feeder systems and hybrid welding processes**

If a certified GMAW wire electrode is fed as "cold wire" (e.g. 52 with cold-wire feeding) or if a hybrid welding process is used (e.g. 52 / 135), the scope of the approval certificate with respect to materials is the same as that for the certified GMAW process.

**4 Build-up welding**

Approval applies only to the tested material listed under "Scope of approval certificate" or for the specified hardness.

**5 Wall thickness limitation**

If welding consumables are certified by DB Systemtechnik, the wall thickness limitation according to DIN EN ISO 14532-1 no longer applies.

Except for the stick electrode types R, R(C) and RR. A wall thickness limitation is specified separately here.

Notice:

For wall thicknesses  $t \geq 50$  mm, proof is recommended for the user of the welding consumables via a welding process test according to DIN EN ISO 15614-1, level 2.

**6. Rail steels****6.1 Rail joint welding**

In addition to the tested rail steel listed under "Scope of approval certificate" and designated in accordance with the DIN EN 13674-1 standard, all rail steels of lower strength are also considered to be covered by the approval certificate, including rail steels designated in accordance with other relevant standards.

Note:

The final 10 mm below the top of the rail shall be welded with a filler metal that has been approved for build-up welding (rail resurfacing) work on the rail steel.

**6.2 Rail resurfacing by welding**

Approval applies only to the tested rail steel listed under "Scope of approval certificate" and designated in accordance with the DIN EN 13674-1, including rail steels of the same strength designated in accordance with other relevant standards.