


	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	
<b>Zweck/Bedeutung</b>	To ensure the normative requirements	
<b>Prozesszuordnung</b>	K-3-1-2-2 Supplier selection for welded assemblies	
<b>Anwendungsbereich</b>	Rail	

## 1. Index

### Content

1. Index.....	1
2. Terms.....	2
3. Proof of qualification and suitability .....	2
4. Regulation for constructions without classification according to DIN EN 15085 .....	3
5. Inspection planning and documentation .....	4
6. Inspection certificate 3.1 according to EN 10204 for semi-finished products .....	4
7. Inspection certificate 3.1 according to EN 10204 for the item of delivery .....	5
8. Declaration of conformity according to ISO/IEC 17050 .....	6
9. Sample of inspection certificate 3.1 according to EN 10204 for the item of delivery with declaration of conformity according to ISO / IEC 17050 .....	7
10. Documentation of welding consumables .....	8
11. Overview welding instructions (WPS): .....	8
12. Initial sample inspection / First Article Inspection (FAI) and documentation .....	8
13. Documentation of initial sample inspection (FAI) at the manufacturer's site .....	9
14. Documentation of initial sample inspection (FAI) in goods receipt of Hübner .....	10
15. Documentation of serial delivery .....	11
16. Renewed initial sample inspection / FAI.....	11

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

## 2. Terms

For the use of this document the terms according to ISO /TR 25901-1 and the following terms apply:

### *Customer:*

The customer is hereinafter referred to as Hübner.

### *Contractor or subcontractor:*

The contractor or subcontractor is hereinafter referred to as manufacturer.

It is not relevant whether the manufacturer produces the delivery item himself or purchases it. If the component is subcontracted by the manufacturer, the sub-supplier also becomes the manufacturer. The direct contractual partner of Hübner is in charge of implementing the requirements of this specification.

These requirements have to be applied to all welded assemblies for rail vehicles and rail vehicle parts which must or should meet the requirements of the series of standards DIN EN 15085 and / or the DB guideline 951.0010 and which are produced by the manufacturer as vendor parts. This specification has to be applied in the offer and order phase.

## 3. Proof of qualification and suitability

For welded components within the scope of the DIN EN 15085 series of standards, the manufacturer has to comply with the welding quality, production and documentation requirements in accordance with this series of standards and those of the customer, including this specification, drawing requirements, parts lists and he has to provide the described welding verifications. Manufacturers of welding assemblies have to own a certificate of suitability for welding according to DIN EN 15085-2 valid for the component to be. The period of validity has to be ensured for the planned production period.

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

For certification level CL3, the manufacturer also has to provide evidence of certification in accordance with DIN EN 15085-2, in particular Annex C of DIN EN 15085-2.

By accepting the order or submitting an offer, the manufacturer undertakes that he has the valid proofs and will maintain them until the end of the contract. Changes have to be notified to Hübner.

To ensure the ability to deliver, the manufacturer has to prove that for all welds at the latest at the beginning of series production at least 2 welders or operators meet the respective requirements (valid welder's qualification tests including work samples). The validity has to be ensured for the production period.

The conditions according to DVS 1610, DVS 1617, DVS 1620, DVS 1621, DVS 1622 and DVS 1623 including their supplemental sheets have to be complied with. This is valid for welded assemblies of all certification levels CL1 to CL3 according to DIN EN 15085-2.

There are the same contractual conditions applicable for any sub-supplier of the manufacturer than for the manufacturer himself. The manufacturer has to submit all contractual requirements to his sub supplier. Should further manufacturers of welded assemblies be required during order processing, the prior written consent of Hübner (vSAP) is required.


Before starting the production, the manufacturer has to audit the sub-suppliers for compliance with the DIN EN 15085 / DIN EN ISO 3834 / DVS 1617 series of standards and send the reports to Hübner. Hübner is also authorised to audit the sub-suppliers.

#### 4. Regulation for constructions without classification according to DIN EN 15085

For components that have been constructed, designed and drawn according to DIN 6700 and are subject to the DVS data sheet 1623 is used to ensure the handling in the production according to EN 15085.

For components that are grouped according to DIN 6700, the following table is used to convert:

BTK according to DIN 6700-2	CL according to DIN EN 15085-2
C1 /C2	CL 1
C3	CL 2
C4	CL 3
C5	CL 4

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

<b>SGK according to DIN 6700-2</b>	<b>CP according to DIN EN 15085-2</b>	<b>CT according to DIN EN 15085-2</b>
SGK 1	CP A	CT 1
SGK 2.1	CP B	CT 1
SGK 2.2	CP C1	CT 2
SGK 2.3	CP C2	CT 3
SGK 3	CP C3	CT 4

For components that are grouped according to the factory standard SIG N 027101, the following table is used to convert:

<b>Classification according to SIG N 027101</b>	<b>Certification level according to DIN EN 15085</b>	<b>Weld seam quality class according to DIN EN 15085</b>
Q1	CL1	CP B
Q2	CL1	CP C1
Q3	CL2	CP C2
Q4	CL2	CP C3

In the case of classification by the manufacturer according to the above mentioned requirements, the specified certification level and weld seam quality class have to be indicated in the welding documentation.


## 5. Inspection planning and documentation

On request, the manufacturer must provide Hübner copies of the documents relating to welding quality, production and documentation requirements in accordance with the DIN EN 15085 series of standards and the DB Guideline 951.0010. A restriction to inspection only is not accepted. The manufacturer has to name a responsible welding supervisor (vSAP) or an equal representative to Hübner as contact person for welding matters. The manufacturer has to carry out the production, evaluation and documentation of welding samples according to DIN EN 15085-4 and DVS 1621. To ensure the 4-eye-principle, the manufacturer has to apply at least test class CT3 according to DIN EN 15085-3. All tests have to be documented in written form.

## 6. Inspection certificate 3.1 according to EN 10204 for semi-finished products

The supplier has to enclose the inspection certificates 3.1 according to EN 10204 for all semi-finished products used with the first sample delivery as well as with each series.

The inspection certificate has to contain at least the following information:

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

***For semi-finished steel products:***

- manufacturer / supplier of the semi-finished product
- material description, heat treatment condition, dimensions
- quantity
- batch assignment / melting number
- CE-conformity
- chemical analysis
- The Cu content must not exceed the maximum value of 0.45%.
- C-equivalent (CEV)
- tensile yield point: Rp0.2 / ReH
- tensile strength: Rm
- expansion: A5
- Z-quality (only if specifically requested in order)

***For semi-finished aluminium products:***

- manufacturer / supplier of the semi-finished product
- material description, heat treatment condition, dimensions
- quantity
- batch assignment / melting number
- CE-conformity
- chemical analysis according to EN 573-3
- tensile yield point: Rp0.2
- tensile strength: Rm
- expansion: A5

The material certificates have to be archived for at least 15 years, so that traceability to the order is guaranteed.

## **7. Inspection certificate 3.1 according to EN 10204 for the item of delivery**

The inspection certificate 3.1 EN 10204 is issued by a production-independent body of the manufacturer and certifies the conformity with the order by stating the results of specific tests.

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

## 8. Declaration of conformity according to ISO/IEC 17050

The manufacturer confirms the conformity of the welding assembly with EN 15085 and this specification by the responsible welding supervisor. Therefore it is confirmed that the requirements of the order for the manufacturer as well as for the delivery item are fulfilled.

The declaration of conformity according to ISO/IEC 17050 can be integrated in the inspection certificate 3.1 EN 10204 for the delivery item.

A sample of an inspection certificate with integrated proof of conformity is shown in section 9.

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

**9. Sample of inspection certificate 3.1 according to EN 10204 for the item of delivery with declaration of conformity according to ISO / IEC 17050**

<b>Inspection certificate 3.1 / report according to EN 10204</b>			
<b>Customer:</b> Hübner GmbH & Co KG Heinrich Hertz Str. 2 34123 Kassel		<b>Supplier:</b>	
<b>Contract / order no.:</b>		<b>Works order no.:</b>	
<b>Contract / test item:</b>		<b>Running number:</b>	
<b>Drawing no.:</b>		<b>Inspection plan:</b>	
<b>Revision status:</b>		<b>Delivery note:</b>	
<b>Information / test results:</b>			
<p>Tests according to inspection plan / technical terms of delivery performed. Requirements are fulfilled. Test results are proven by the following measuring sheets, test reports etc. and are part of this inspection certificate / report.</p> <ul style="list-style-type: none"> <li>• Material test certificates for semi-finished products (3.1 according to EN 10204)</li> <li>• Production and test certificates</li> <li>• Report and documentation of zfP</li> </ul>			
<b>Declaration of conformity according to ISO / ICE 17050-1:</b>			
<p>Based on the results of tests carried out on the delivery itself, it is confirmed that the items listed comply with the agreements of the order (exception see note).</p> <p>Furthermore, the above mentioned product conforms to the requirements of specification 011, EN 15085 parts 1 to 5, as well as other applicable standards and is state of the art.</p>			
<b>Note (Exceptions):</b>			
<b>SAP / Quality Management</b>		<b>Works expert</b>	
Date	Date	Date	Date
_____	_____	_____	_____

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

## 10. Documentation of welding consumables

Only welding consumables with the following requirements are allowed to be used:

- Inspection certificate 2.2 EN 10204
- DB authorisation
- CE-marking

The material certificates have to be archived for at least 15 years to ensure traceability to the order.

## 11. Overview welding instructions (WPS):

The manufacturer has to prepare an overview of the welding procedure specifications (WPS) according to 15609 ff or ISO 14555 for each delivery product. This has to be presented at the initial sample inspection / FAI or enclosed with the initial delivery. The overview of the welding procedure specifications has to be approved by the manufacturer's vSAP.

This overview has to include at least the following points:

- Drawing no.
- index
- material group
- welding process
- joint type
- material thickness
- welding position
- weld seam quality class
- WPS-no.
- Reference to the welding procedure qualification (WPQR)

## 12. Initial sample inspection / First Article Inspection (FAI) and documentation

Hübner has the right, upon request, to carry out the welding initial sample inspection (FAI) at the manufacturer's premises or at the manufacturer's subcontractor in the presence of Hübner and, if applicable, of Hübner's customer.

On request, the manufacturer has to present the first delivery item produced under series conditions in a testable condition (cleaned, e.g. blasted, without paint and without sealant



	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

The initial sample inspection has to be repeated if one of the following conditions applies:

- remanufacture
- changes to drawings (new index)
- change of production site
- change of supplier or manufacturer
- resumption of production after 12 months of production shutdown from last delivery date
- repeated quality defects in the current production

The specifications of Hübner's welding supervisor are relevant for the registration and execution of the test.

The Registration for the welding FAI has to be made at least 10 working days in advance in Europe or at least 15 working days worldwide and will be coordinated with the manufacturer. In order to ensure the success of the welding FAI, the manufacturer has to perform an internal documented welding FAI in advance and confirm the successful performance at least 5 working days before the actual welding FAI.

The test equipment is provided by the manufacturer.

### **13. Documentation of initial sample inspection (FAI) at the manufacturer's site**

The manufacturer has to provide the following checked and approved documents for the initial sample inspection (FAI) for welding assemblies of certification levels CL1 and CL2 according to DIN EN 15085-2:

- Contract review with the contents:
  1. Order no.
  2. Drawing no.
  3. Index
  4. Component classification
  5. Scope of application (welding procedure, raw material, dimensions)
  6. Welding supervisor
  7. Period of validity
- Certificate DIN EN 15085
- Overview welding supervisor
- List of welder / operator
- List of inspection personnel
- ZfP-qualifications according to DIN EN ISO 9712
- ZfP-protocols according to the requirements of the respective weld seam test class (CT)
- Overview welding instructions (WPS) (For details see section)

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

- List of welding machines, devices
- Instruction for the use of welding devices
- Welding sequence plan (only necessary for complex assemblies)
- Work plan according to DVS 1610 (only necessary for complex assemblies)
- Welding inspection plan (required from weld seam inspection class CT2)
- Inspection instruction (required from weld seam inspection class CT4)
- Welder inspection certificates according to ISO 9606 ff.
- Operator inspection certificates according to DIN EN ISO 14732
- Proof of work samples carried out according to EN 15085-4 and DVS 1621 with approval by the vSAPs of the manufacturer
- Inspection certificate 3.1 according to EN 10204 for all semi-finished products (for details see section 6)
- Documentation welding consumables (for details see section 10)
- Work book of the external welding supervisor (if applicable)
- Inspection certificate 3.1 according to EN 10204 for the item of delivery (for details see section 7)
- Declaration of conformity according to ISO/IEC 17050 confirmed by the responsible welding supervisor that the requirements of the order for the manufacturer as well as for the supplied parts are fulfilled (for details see section 8)

Deviations from this part of the specification require the written approval of Hübner's responsible welding supervisor (vSAP).

#### **14. Documentation of initial sample inspection (FAI) in goods receipt of Hübner**

If no initial sample inspection (FAI) by Hübner at the manufacturer's premises has been agreed for the delivery item, the responsibility for its execution lies with the manufacturer. An inspection of the delivery item and the associated documentation will then take place at HÜBNER's incoming goods department.

The documentation has to have the following scope:

- Inspection certificate 3.1 according to EN 10204 for all semi-finished products (for details see section 6)
- Overview of welding instructions (WPS) (for details see section 11)
- Documentation welding consumables (for details see section 10)
- Inspector's ZfP-certificate of qualification according to ISO 9712 (required from weld seam inspection class CT2)
- ZfP-protocols according to the requirements of the respective weld seam inspection class (CT)
- Inspection certificate 3.1 according to EN 10204 for the delivery item (for details see section 7)
- Declaration of conformity according to ISO / IEC 17050 confirmed by the responsible welding supervisor that the requirements of the order for the manufacturer as well as for the supplied parts are fulfilled (for details see section 8)

Hübner reserves the right to carry out a subsequent FAI at the manufacturer's premises

	<b>Specification</b>	
<b>Spec 011_02_21</b>	<b>Quality requirements for the production and purchase of welding components according to DIN EN 15085 and DB 951.0010</b>	

after having carried out an initial sample inspection (FAI) in the incoming goods department. All documents according to section 13 must be presented here. The deadlines for FAI planning at the manufacturer's premises also apply.

### 15. Documentation of serial delivery

If the initial sample delivery has been approved by Hübner, the documentation of the series delivery is reduced to the following extent:

- Inspection certificate 3.1 according to EN 10204 for all semi-finished products (for details see section 6)
- ZfP-protocols according to requirements of the respective weld seam inspection class (CT)

If any of the following documents should change, Hübner has to be informed in writing:

- ZfP-quality certification of the inspector according to ISO 9712 (required from weld seam inspection class CT2)
- Overview of welding instructions (WPS) (for details see section 11)
- Inspection certificate 3.1 according to EN 10204 for the delivery item (for details see section 7)
- Declaration of conformity according to ISO / IEC 17050 confirmed by the responsible welding supervisor that the requirements of the order for the manufacturer as well as for the supplied parts are fulfilled (for details see section 8)

### 16. Renewed initial sample inspection / FAI

If one of the following changes occurs, a new initial sample inspection or FAI has to be carried out in consultation with Hübner.

- Relocation of the already sampled component to another production site
- Purchase of the component from another manufacturer (sub-supplier)
- Suspension of production for more than one year
- Change of the responsible welding supervisor of the manufacturer
- Suspension of delivery > 1 year
- Change of information in the welding instruction (WPS)
- Change in the degree of mechanisation of the welding process

Hübner has to be informed about all changes prior to the start of production. If necessary, Hübner's vSAP may determine a suspension of a renewed initial sample inspection.

**Valid original only available in the Intranet!**

<b>Prepared:</b> Klaus Deist vSAP	<b>Date:</b> 28.03.19	<b>Checked and released:</b> Torsten Fuchs Head of QM Rail	<b>Date:</b> 26.02.21
<b>Revised:</b> Patrick Diener vSAP	<b>Date:</b> 20.02.21	<b>Distribution list:</b> Intranet, SEK, supplier	