



Guideline

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Products Subject to Quality Inspection

Track Superstructure Materials

Version 1st of April 2022

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*The border bar on the left means:
Changes compared to the last version! (01.03.2021)*

Part 2: Determination of the minimum scope of quality assurance measures on parts, components and systems

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*All changes compared to the previous version valid
from 01.02.2021 have been marked with "2" in the respective field.*

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Teil 1: General rules

1 Purpose

- | | |
|--|--------------------------|
| (1) The list of products subject to quality assurance regulates the minimum scope of the quality assurance measures of Deutsche Bahn AG (DB AG) for the products listed. The provisions made apply both to the procurement of these products by Deutsche Bahn AG and its affiliated companies and to the procurement of these products by contractors (AN)/sub-contractors (UAN) within the scope of orders placed by Deutsche Bahn AG and its affiliated companies. | Basic |
| (2) The list of products subject to quality control consists of <ul style="list-style-type: none"> - Part 1: General regulations - Part 2: Specification of the minimum scope of quality assurance measures on parts, components and systems. | Constituent parts |
| (3) This list applies to the procurement of parts, components and systems for new construction as well as maintenance of/on permanent way materials. | Scope |

2 General notes

- | | |
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| (1) The products shall be assigned to test levels P I and P II according to aspects of complexity and safety relevance. The assignment of the products to P I/P II and the evaluation of the Contractor's quality capability - Q1, Q2 or Q3 - result in the type and scope of the quality assurance measures to be carried out by Deutsche Bahn AG's quality assurance department and by the Contractor. | Inspection levels/ quality capability of Contractor |
| (2) New products that are not listed in Part 2 but are comparable with the products listed shall be allocated appropriate quality assurance measures correspondingly. | New products |
| (3) The basis for action are the contractually agreed regulations (e.g. EVB, DIN, EN, UIC, DBS, drawings, checklists, specifications). | Handlungsgrundlage |

3 Quality capability of Contractor

- | | |
|---|---|
| (1) The quality assurance department of DB AG's Purchasing Department evaluates the Contractor's quality capability and classifies the Contractor in the Q1, Q2 or Q3 category. | Quality capability of Contractor |
| (2) This classification is usually valid for one year and can be updated if necessary. The update is based on the evaluation of the quality data (e.g. complaints, product probation, quality data) and/or on the result of an audit. | Update |
| (3) The classification may be changed at any time in the event of changes in the quality capability of the Contractor or its Subcontractors or in the quality of the products and services. | Change |
| (4) Non-classified employees of Deutsche Bahn AG shall be treated as employees of category Q3. | Constructors with no Q-rating |

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4 Inspection levels

- (1) The scope of the quality assurance measures is basically derived from the following tables. **Scope**

Products with inspection level	Contractor's Q-rating	Quality assurance measures
I	Q1	Deutsche Bahn AG carries out sample testing of the deliveries for product inspection purposes. Delivery with 3.1 inspection certificate/'Ü-EBA' conformity mark/CE marking and delivery release/inspection certificate by DB AG.
	Q2	Deutsche Bahn AG checks every delivery. Delivery with 3.1 inspection certificate/'Ü-EBA' conformity mark/CE marking and delivery release/inspection certificate by DB AG.
	Q3	Contractor is barred

Table 1: QA measures for inspection level I (PI) products

Products with inspection level	Contractor's Q-rating	Quality assurance measures
II	Q1	Deutsche Bahn AG accepts complete inspection by the manufacturer. Regular inspections of Contractor by DB AG. Delivery with 3.1 inspection certificate/'Ü-EBA' conformity mark /CE marking.
	Q2	Deutsche Bahn AG carries out sample testing of the deliveries for product inspection purposes. Delivery with 3.1 inspection certificate/'Ü-EBA' conformity mark /CE marking and delivery release/inspection certificate by DB AG.
	Q3	Contractor is barred

Table 2: QA measures for inspection level II (PII) products

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5 Manufactured-related product qualification (HPQ)

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|-----|--|------------------|
| (1) | Manufacturer-related product qualification is a quality assurance instrument of Deutsche Bahn AG and is generally based on requirements from national and international railway-specific standards, regulations and guidelines. | Basis |
| (2) | The aim of the HPQ is to ensure that special products are only supplied by manufacturers who have demonstrated that they can meet the requirements for safety, reliability and process capability. The HPQ is required from manufacturers for specific production processes (e.g. casting, forging) who supply directly or indirectly to Deutsche Bahn AG. The specific products are identified in Part 2 of this document. | Objective |
| (3) | <p>The validity of the HPQ is usually 3 years. An HPQ shall be performed again</p> <ul style="list-style-type: none"> - in case of relocation of production - in the event of changes to production methods or process sequences - after the expiry of the 3-year validity period in the case of indirect suppliers - after 6 years at the latest in the case of direct suppliers (after 3 years, a one-time extension can take place if deliveries have been made on the basis of a contract and the conditions on the basis of which the HPQ was issued have not changed). | Validity |

6 Quality engineering (QE) methods

- | | | |
|-----|---|---------------------------------------|
| (1) | In order to support the quality planning of the CO during the entire product development, the requirements of DB AG for quality engineering methods are described below. QE methods are to flank testing quality assurance measures such as HPQ and control monitoring and to supplement these with their preventive approach. | Basis |
| (2) | The aim of the QE measures is to ensure the translation of requirements into product characteristics and to adequately control the delivery quality of products subject to quality assurance through preventive quality assurance and evaluation of the design and manufacturing processes. | Objective |
| (3) | Contractors with development responsibility are obliged to document planned measures to safeguard product and process quality during development in a QE plan. The selection of suitable measures and components shall be based on a risk-based approach. | Quality planning
(QE plan) |
| (4) | Obligatory results of the product and process development of the Contractor are design and process FMEA according to DIN EN 60812 in which the progress of the risk minimization is to be documented. For the execution, at least the specifications according to VDA Volume 4 "Assuring Quality in the Process Environment" or AIAG "Potential Failure Mode and Effects Analysis (FMEA)", shall be applied. The equivalence of FMEA based on other standards than those mentioned shall be proven by the Contractor. For the evaluation of the significance of a failure, the following catalog shall be used in addition to the aforementioned standards: | FMEA |

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1	Very minor , very minor functional impairment, only detectable by skilled personnel
2-3	Minor , minor functional impairment of the components, elimination during the next maintenance session, functional limitation of operating and comfort systems
4-6	Moderate , functionality of components limited, immediate error-elimination not absolutely necessary, functional limitation of important operating and comfort systems, alternatives possible
7-8	Severe , severe functional limitation of components, immediate elimination mandatory, functional limitation of important subsystems, slow approach, train at a standstill
9-10	Very severe , safety risk, statutory requirements not met, disproportionately high cost of replacement in the event of breakdown, damage, or maintenance work

Table 3: Importance of errors

- | | | |
|------|--|---|
| (5) | The maintainability and availability in operation in accordance with DIN EN 50126 shall be taken into account in the design FMEA. | Maintainability and availability |
| (6) | The Contractor shall be obliged to perform a process FMEA prior to the start of series production and to document it as one of the prerequisites for internal production release. | Internal production release |
| (7) | The documentation of the QE measures shall be kept up to date, in particular field data, test results as well as internal and external complaints shall be taken into account. In addition, a revision of design and process FMEA is required in the following cases:
- Design changes
- Relocation of production
- Change of production methods or process flows | Updating |
| (8) | The effectiveness of the QE methods and the resulting measures shall be verified by annual internal audits of the CO. | Effectiveness checks |
| (9) | The QE plan, design and process FMEA shall be submitted to Deutsche Bahn AG for inspection upon request. | Inspection |
| (10) | The QE plan and the design and process FMEA shall be checked by Deutsche Bahn AG. An initial review of the process FMEA shall be performed at the latest prior to series production, for example for HPQ or initial sample inspection. | Initial checks |
| (11) | The Contractor is obliged to evaluate its UAN on the basis of risk-based criteria. Points (1) - (10) shall apply analogously to UANs that contribute significantly to the success of the end product and the product of the UAN is listed in Part 2 of the LgP. The application of points (1)-(10) for the responsible UAN shall be verified by the CO. | Subcontractors |
| (12) | One of the points 7a) - 7c) or a new tender leads to immediate application of the requirements of this guideline. A process FMEA must be prepared by 31.12.2018 for all products subject to quality inspection to be | Transition period |

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supplied to DB AG. A design FMEA is only required for newly developed products that are approved by DB Netz AG after 31 December 2018.

- | | |
|--|--|
| <p>(13) An essential task of quality assurance is the monitoring of test criteria. Suitable measuring and test equipment is required for the comparability of measurement and test results. Calibration is performed by appropriate procedures and institutions.</p> | Measuring equipment |
| <p>(14) In the quality assurance of all railway-specific and standardized measuring and test equipment, the general requirements for the competence of testing and calibration laboratories according to DIN ISO 17025 are decisive.</p> | Requirements for testing laboratories |
| 7 Special production processes | |
| <p>(1) Special manufacturing processes are regulated in the respective norms and DB standards.</p> | DB Standards |
| 8 Regular inspections | |
| <p>(1) In order to safeguard the quality interests of Deutsche Bahn AG, all COs with products of test level II and Q1 classification as well as the existing supply contract shall be monitored by DB AG's quality assurance department. Product and/or process audits are carried out as part of this regular monitoring. The audits can also take the form of unannounced inspections.</p> | Regular inspections at contractors' premises |
| <p>(2) If quality risks or quality deficiencies are identified in the course of the regular surveillance, this may result in a change of the Q -classification and/or the withdrawal of the HPQ.</p> <p>The direct effects on existing supply and service contracts will be examined by Purchasing once the results are available and appropriate measures will be initiated.</p> | Shortcomings and validity |
| <p>(3) For subcontractors that supply products subject to quality inspection in accordance with this list to DB AG's CO, the respective CO must carry out the defined number of regular inspections (see "Guideline for regular inspections" in the supplier portal of Purchasing). The planning of the quality checks and their results (including findings and measures) must be proven to Deutsche Bahn AG as part of the assessment of the quality capability or as part of the standard monitoring of the contractor.</p> | Regular inspections at subcontractors' premises |
| <p>(4) Insofar as risks and/or defects have been identified at UAN, the effects on the Q rating of one or more COs and the further measures at the UAN shall be determined in consultation with the CO's purchasing and quality assurance departments. The Contractor shall bear any additional expenses incurred by Deutsche Bahn AG as a result.</p> | Shortcomings |

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9 8D report

- (1) In the context of complaints, an 8D report is exchanged between the Contractor and DB AG. The process includes the following elements: **Basis**
- D1: Team determination
 - D2: Error description
 - D3a: Immediate measures DBAG
 - D3b: Immediate measures supplier
 - D4: Causes of error
 - D5: Possible corrective measures
 - D6: Implemented corrective measures
 - D7: Preventive measures implementation
 - D8: Documentation, lessons learned
- (2) (D1) Depending on the nature of the problem, an interdisciplinary team with sufficient product and process knowledge must be appointed. **Implementation**
- (D2) The description of the fault shall be based on facts.
- (D3) If necessary, immediate measures must be taken by both the Contractor (and/or its subcontractor) and DB AG to prevent further damage (e.g. blocking of the material or 100 % testing).
- (D4) On the basis of data and facts, probable causes of the fault are to be analyzed by the contractor (subcontractor).
- (D5) The selection of corrective measures to eliminate the cause of the defect is the responsibility of the contractor. Based on the root cause analysis, measures are to be identified that permanently eliminate the fault in the sense of DB AG and do not cause any undesired side effects. Before implementing a measure, its effectiveness must be checked. The focus should be on error prevention and error detection.
- (D6) In accordance with the effectiveness demonstrated under D5, corrective measures must be defined that reliably prevent the recurrence of the fault. The effectiveness of the measures taken shall be monitored over an appropriate period of time. Once effectiveness has been demonstrated, immediate measures still in progress, such as additional tests, may be scaled back.
- (D7) In order to exclude recurrences of the occurred/similar defects, the contractor (and/or his subcontractor) shall take preventive measures such as e.g. inclusion of the defect in the design and/or process FMEA, adaptation of guidelines, work instructions and internal processes, testing of further production lines or related processes for robustness against the occurred defect.
- (D8) In the sense of a Lesson Learned, the most important findings-se from the 8D are documented. An 8D report can only be closed by appropriately authorized personnel and with the consent of the customer DB AG.
- (3) - remains free -

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- (4) The printed form 120.0381V30 "Guideline & Form 8D Report" in the Annex to the Guideline shall be used internally to create the 8D Report (see also DB Netz process portal: LN24-01-07). A separate external guideline is also stored in the supplier portal. **Printed form**

10 Documentation and proofs of conformity

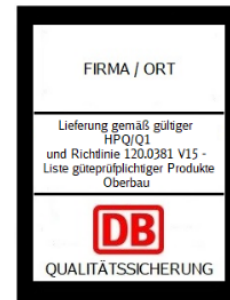
- (1) For products and components according to the list "Products subject to quality inspection - permanent way material" Part 2, the supplier shall in principle document a documentation/proof of conformity depending on the inspection level of the product (PI or PII) and its classification (Q1 or Q2) for each delivery or partial delivery. The supplier must keep the proof of conformity for at least 10 years. **Inspection certificate**
- Verification for products of test level I:
- as Q1 supplier: acceptance test certificate 3.1 according to DIN EN 10204 and delivery release/test certificate of DB AG
 - as Q2-supplier: acceptance test certificate 3.1 according to DIN EN 10204 and delivery release/ test certificate of DB AG
- Verification for products of test level II:
- as Q1 supplier: acceptance test certificate 3.1 according to DIN EN 10204
 - as Q2-supplier: acceptance test certificate 3.1 according to DIN EN 10204 and delivery release/ test certificate of DB AG
- (2) These certificates of conformity serve Deutsche Bahn AG or EBA and the industry as proof that the agreed quality assurance measures have been carried out and that the products meet the requirements in terms of quality. Furthermore, the identification and unambiguous assignment of products and components in the event of defect notifications shall be ensured. **TSI conformity declaration**
- TSI declarations of conformity shall be provided by the supplier for the following components of the track:
- Rails, sleepers, switches and crossings and complete rail fastening systems.

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11 Marking

- (1) Starting with 01.01.2022 the QS mark will be introduced.

It certifies that the supplier and/or manufacturer complies with the manufacturing and delivery conditions of the products listed in the product list of Deutsche Bahn AG. of the products listed in the product list of Deutsche Bahn AG and is monitored by the Quality Assurance Procurement department.



QS marking

It is sent to the supplier in connection with the HPQ and/or quality classification and can be attached to the delivery bill, the packaging or the product.

It is not necessary to send the 3.1 certificates to the construction sites when using the QS mark. However, if necessary, the 3.1 certificates must be sent to the customer or the user of the equipment or the documents must be inspected.

- (2) On the basis of the Administrative Regulation BAU of the Federal Railway Authority (EBA), the U-EBA mark shall be affixed to the construction product, the packaging or the delivery bill, thus confirming that the construction product supplied by it complies with the Railway-Specific Construction Rules Lists of the EBA, the approval or the consent in the individual case.



U – EBA marking

This applies to all products approved by the EBA after 1994 have been approved.

- (3) For track ballast, the regulations for CE marking in accordance with DIN EN 13 450 shall be observed. The acceptance test certificate 3.1 according to DIN EN 10 204 is replaced by this.

CE marking

Use of the CE - mark: (concerns only ballast)

CE specimen

CE		
01234		
AnyCo Ltd, P.O. Box 21, B-1050		
02		
0123-CPD-0456		
EN 13450		
Gesteinskörnungen für Gleisschotter		
Konform	Kategorie	(z. B. F1 ₁)
Korngröße	Bezeichnung	(d & f) & Kategorie
Rohdichte	Sollwert	(Mg/m ³)
Widerstand gegen Zertrümmerung	Kategorie	(z. B. LA ₁₀ 18)
Abriebwiderstand	Kategorie	(z. B. M ₀₄ RB 5)
Reinheit	Kategorie	(z. B., B)
Freisetzung gefährlicher Substanzen	z. B. Substanz X:	0,2 µm ³
Frost-Tau-Wechsel-Beständigkeit	Sollwert	(F oder MS)
Verwitterungsbeständigkeit	Sollwert	(SB)

CE-Konformitätskennzeichnung, bestehend aus dem in der Richtlinie 93168/EWG angegebenen „CE“-Symbol

Kennnummer der Zertifizierungsstelle

Name oder Kennzeichen und eingetragene Anschrift des Herstellers

die letzten beiden Ziffern des Jahres, in dem das Kennzeichen angebracht wurde

Nummer des EU-Zertifikats

Nummer der Europäischen Norm

Beschreibung des Produktes und

Angaben zum Produkt und den Vorschriften unterliegenden Merkmalen

Bild ZA.1 - Beispiel für die Angaben zur CE-Kennzeichnung von Gesteinskörnungen für Gleisschotter nach System 2+

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12 List of abbreviations

AIAG	Automotive Industry Action Group
DB AG	German Railways (<u>D</u> eutsche <u>B</u> ahn <u>A</u> G)
DBS	German Railway Standard (<u>D</u> eutsche <u>B</u> ahn <u>S</u> tandard)
DIN	German Institute for Standardization e.V. (<u>D</u> eutsche <u>I</u> nstitut für <u>N</u> ormung e.V.)
EBA	German Federal Railway Authority (<u>E</u> isenbahn - <u>B</u> undes <u>a</u> mt)
EN	European Standard (<u>E</u> uropäische <u>N</u> orm)
EVB	Supplementary Conditions of Contract (<u>E</u> rgänzende <u>V</u> ertrags <u>b</u> edingungen)
FMEA	Failure Mode and Effects Analysis (<u>F</u> ehler <u>m</u> öglichkeiten- und - <u>e</u> influss <u>A</u> nalyse)
HPQ	Manufacturer-related product qualification (<u>H</u> erstellerbezogene <u>P</u> rodukt <u>q</u> ualifikation)
log/ low	Engineer drawing track superstructure - tracks/ Engineer drawing track superstructure - switches
LgP	List of products subject to quality inspection (<u>L</u> iste <u>g</u> üte <u>p</u> rü <u>p</u> flichtiger <u>P</u> rodukte)
P I	Inspection level 1 (<u>P</u> rü <u>f</u> stufe <u>1</u>)
P II	Inspection level 2 (<u>P</u> rü <u>f</u> stufe <u>2</u>)
QE	Quality classification (<u>Q</u> ualität <u>e</u> instufung)
QS	Quality assurance (<u>Q</u> ualität <u>s</u> sicherung)
RÜ	Regular inspection (<u>R</u> egel <u>ü</u> berwachung)
TSI	Technical Specifications for Interoperability (<u>T</u> echnische <u>S</u> pezifikationen für die <u>I</u> nteroperabilität)
UIC	International Union of Railways (frz. : <u>U</u> nion <u>I</u> nternational des <u>C</u> hemins de Fer)
VDA	Association of the Automotive Industry (<u>V</u> erband <u>d</u> er <u>A</u> utomobilindustrie)

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Structural level	Product groups/products	Applicable documents	HPQ	Inspection level	Number of Regular Insp./year	Documentation	Manufactures's mark	Material-group	Comments
1	Rails			II ²					
1.1	Track rails (flat-bottomed rail from 46kg/m)								
1.1.1	Track rails (flat-bottomed rail from 46kg/m, as rolled)	DBS 918 254-1	X	II	2	Insp. Cert. 3.1	X	10710010 ²	
1.1.2	Track rails (flat-bottomed rail from 46kg/m, head hardened)	DBS 918 254-1	X	II	2	Insp. Cert. 3.1	X	10710010 ²	
1.1.3	Track rails (flat-bottomed rail from 46kg/m, special grade)	DBS 918 254-1	X	II	2	Insp. Cert. 3.1	X	10710010 ²	
1.2	Rails for switches and crossings								
1.2.1	Rails for switches and crossings (as rolled)	DBS 918 254-2	X	II	2	Insp. Cert. 3.1	X	10710030 ²	
1.2.2	Rails for switches and crossings (head hardened)	DBS 918 254-2	X	II	2	Insp. Cert. 3.1	X	10710030 ²	
1.2.3	Rails for switches and crossings (special grade)	DBS 918 254-2	X	II	2	Insp. Cert. 3.1	X	10710030 ²	
1.3	Check rails	DBS 918 254-3	X	II	2	Insp. Cert. 3.1	X	10710030	
1.4	Flash butt welded rails (at the factory)	DBS 918 255-1	X	II	2	Insp. Cert. 3.1	X	10710020	
1.5	Reconditioned rails (at the factory)	DBS 918 255-1	X	II	2	Insp. Cert. 3.1	X	10770010	
1.6	Rail transitions (at the factory)	DBS 918 255-1	X	II	2	Insp. Cert. 3.1	X	10710020	
1.7	Milled rails (New layer milling in the factory)	DBS 918 255-1	X	II	2	Insp. Cert. 3.1	X	10710020	
1.8	Grooved rails	EN 14811	X****	- ²	- ²	Insp. Cert. 3.1	X	10710010	****HPQ for track rails required (structural level 1.1)

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Structural level	Product groups/products	Applicable documents	HPQ	In-spection level	Number of Regular Insp./year	Documentation	Manufactures`s mark	Material-group	Comments
2	Rail connectors			II					
2.1	Fishplate bolts/Anchor bolts	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10750010	
2.2	Collar nuts/Nuts	DBS 918 024	X	II	2*	Insp. Cert. 3.1	X	10750010	*If necessary, at the supplier of the screws
2.3	Fishplate bolts with nuts (high-strength), Anchor bolts (high-strength)	DBS 918 024	X**	II	2	Insp. Cert. 3.1	X	10750010	**same manufacturer's mark
2.4	Butt pads for insulated joints	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
2.5	Insulated joints (factory-made)	DBS 918 256	X	II	2	Insp. Cert. 3.1	X***	10710010	*** Company signs
2.6	Insulated joints (Kit)	DBS 918 256	X	II	2	Insp. Cert. 3.1	X	10710010	
2.7	Fishplates								
2.7.1	Fishplates (rolled)	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	
2.7.2	Fishplates/Insulated steel fishplates (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
2.7.3	Fishplates/Insulated steel fishplates (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
2.8	Emergency link connections (Screw clamps)								
2.8.1	Bracket for Insulated steel fishplates (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
2.8.2	Bracket for Insulated steel fishplates (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
2.9	Aluminothermic welding portions	DBS 918 248	X	II	2	Insp. Cert. 3.1	X	10710040	
2.10	Single crucible with aluminothermic welding portions	DBS 918 248	X	II	2	Insp. Cert. 3.1	X	10710040	
2.11	Molds for aluminothermic welding	DBS 918 248	X	II	2	Insp. Cert. 3.1	X	10710040	

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Structural level	Product groups/products	Applicable documents	HPQ	In-specification level	Number of Regular Insp./year	Documentation	Manufactures's mark	Material-group	Comments
3	Rail fasteners			II					
3.1	Angle guide plates/ Plastic guide plates ²	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.2	Sleeper screws	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10750010	
3.3	T-Bolts and nuts								
3.3.1	T-Bolts	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10750010	
3.3.2	Nuts for T-Bolts	DBS 918 024	X*	II	2*	Insp. Cert. 3.1	X	10750010	*If necessary, at the supplier of the screws
3.4	Spring washers	DBS 918 006	X	II	2	Insp. Cert. 3.1	X	10750010	
3.5	Spring steel clamping elements								
3.5.1	Rail clamps	DBS 918 127	X	II	2	Insp. Cert. 3.1	X	10750010	
3.5.2	Clips/Clamping nails ²	DBS 918 127	X	II	2	Insp. Cert. 3.1	X	10750010	
3.5.3	Clamps/Clamping brackets	DBS 918 127, DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
3.5.4	Wire form springs/Tension springs ²	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
3.5.5	Torsion springs	DBS 918 125 ²	X	II	2	Insp. Cert. 3.1	X	10750010	
3.5.6	Coil springs	log 30.7004	-	II	-	Insp. Cert. 3.1	-	10750010	
3.5.7	Leaf springs	DBS 918 127	X	II	2	Insp. Cert. 3.1	X	10750010	
3.6	Rail clips								
3.6.1	Rail clips (rolled)	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	
3.6.2	Rail clips (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	

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Structural level	Product groups/products	Applicable documents	HPQ	In-spection level	Number of Regular Insp./year	Documentation	Manufactures's mark	Material-group	Comments
3.7	Base plates/Collar inserts		X ²	II ²		APZ 3.1 ²	X ²	10750010 ²	
3.7.1	Base plates (rolled)	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
3.7.2	Base plates (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
3.7.3	Base plates (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
3.7.4	Collar inserts/Spacers ²	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
3.8	Insulation pads/insulation angles								
3.8.1	Insulation pads	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.8.2	Insulation angles	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.9	Rigid intermediate layers and rigid intermediate plates								
3.9.1	Rigid intermediate layers	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.9.2	Rigid intermediate plates	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.10	Elastic intermediate layers and elastic intermediate plates								
3.10.1	Elastic intermediate layers	DBS 918 235	X	II	2	Insp. Cert. 3.1	X	10750020	
3.10.2	Elastic intermediate plates	DBS 918 235	X	II	2	Insp. Cert. 3.1	X	10750020	
3.11	Height adjustment plates								
3.11.1	Height adjustment plates (synthetic)	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.11.2	Height adjustment plates (metal)	drawing	X	II	2	Insp. Cert. 3.1	X	10750010	
3.12	Track rods for tracks	drawing	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
3.13	Rail anchors for tracks	drawing	X	II	2	Insp. Cert. 3.1	X	10750010	
3.14	Dowels								
3.14.1	Dowels (synthetic)	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
3.14.2	Dowels (metal)	log 50.5000	X	II	2	Insp. Cert. 3.1	X	10750010	

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4	Sleepers			II^P					
4.1	Wooden sleepers (impregnated)	DBS 918 144	X	II	2	Insp. Cert. 3.1	X	10720010	
4.2	Steelsleepers, cast iron sleepers								
4.2.1	Steel sleepers	log-drawings	X	II	2	Insp. Cert. 3.1	X	10720030	welding in accord. with 7.3
4.2.2	Y-steel sleepers	log-drawings	X	II	2	Insp. Cert. 3.1	X	10720030	welding in accord. with 7.3
4.2.3	Hollow sleepers								
4.2.3.1	Hollow sleepers for cable								
4.2.3.1.1	Hollow sleepers for cable (casted, unpadded)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10720030	
4.2.3.1.2	Hollow sleepers for cable (casted, padded)	DBS 918 145-2	X	II	2	Insp. Cert. 3.1	X	10720030	
4.2.3.1.3	Hollow sleepers for cable/Hollow sleepers for track equipment (welded, unpadded)	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10720030	welding in accord. with 7.3
4.2.3.1.4	Hollow sleepers for cable/Hollow sleepers for track equipment (welded, padded)	DBS 918 145-2	X	II	2	Insp. Cert. 3.1	X	10720030	welding in accord. with 7.3
4.2.3.2	Hollow sleepers for point lock (unpadded)	DBS 918 126, low-drawings	X	II	2	Insp. Cert. 3.1	X	10720030	
4.2.3.3	Hollow sleepers for point lock (padded)	DBS 918 145-2	X	II	2	Insp. Cert. 3.1	X	10720030	
4.2.4	Steel beam bridge sleepers	log-drawings	X	II	2	Insp. Cert. 3.1	X	10720030	welding in accord. with 7.3

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4.3	Concrete sleepers			II ²					
4.3.1	Concrete sleepers new (tracks, unpadded)	DBS 918 143	X	II	6	Insp. Cert. 3.1	X	10720020	
4.3.2	Concrete sleepers new (tracks, padded)	DBS 918 145-2	X	II	6	Insp. Cert. 3.1	X	10720020	
4.3.3	Concrete sleepers new (switches, unpadded)	DBS 918 143	X	II	6	Insp. Cert. 3.1	X	10720021	
4.3.4	Concrete sleepers new (switches, padded)	DBS 918 145-2	X	II	6	Insp. Cert. 3.1	X	10720021	
4.3.5	Concrete sleepers (refurbished)	DBS 918 146	X	II	4	Insp. Cert. 3.1	X	10770020	
4.4	Plastic sleeper	Technical Instructions	X	II	1	Insp. Cert. 3.1	X	10720050	Document review only
4.5	Elastic sleeper sole	DBS 918 145-1	X	II	2	Insp. Cert. 3.1	X	10750020	
4.6	Safety caps	log 80.0001 - log 80.0003 ²	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
4.7	Sleeper anchors	log 80.0100 - log 80.0102 ²	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
4.8	Concrete slab tracks								
4.8.1	Concrete slab tracks prefabricated slab	DBS 918 143	X	II	1	Insp. Cert. 3.1	X		
4.8.2	Concrete slab tracks sound absorber plate	Diverse DIN	X	II	1	Insp. Cert. 3.1	X		
4.8.3	Concrete slab tracks navigability coating	Diverse DIN	X	II	1	Insp. Cert. 3.1	X		

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Structural level	Product groups/products	Applicable documents	HP Q	In-spection level	Number of Regular Insp./year	Documentation	Manufactures's mark	Material-group	Comments
5	Switches/switch components/crossings/rail extensions			II²					
5.1	Switches	DBS 918 120	X	II	2	Insp. Cert. 3.1	X	10740040	welding in accord. with 7.3
5.1.1	Tongue device areas			II²					
5.1.1.1	Tongue rail reforgeings	DBS 918 122	X	II	2	Insp. Cert. 3.1	X	10740010	
5.1.1.2	Set of switches	DBS 918 120	X	II	2	Insp. Cert. 3.1	X***	10740010	*** Company plaque
5.1.1.3	Tongue rails for individual substitution	DBS 918 120	X	II	2	Insp. Cert. 3.1	X	10740010	
5.1.1.4	Stock rails for individual substitution	DBS 918 120	X	II	2	Insp. Cert. 3.1	X	10740010	
5.1.2	Closure rail areas								
5.1.2.1	Closure rails/ wing rails ² / Running rails (knee rails ²)	DBS 918 120	-	II	2	Insp. Cert. 3.1	X	10710030	HPQ in rolling mill (see 1.1 and 1.2)
5.1.2.2	Check rails	DBS 918 120	X	II	2	Insp. Cert. 3.1	X	10740010	HPQ in rolling mill (see 1.3)
5.1.3	Point crossings/frogs			II²					
5.1.3.1	Point crossing blocks/„vee“ ² (forging blank) (heat-treated, bainitic) ²	DBS 918 125 ² ; DBS 918 142	X	II	2	Insp. Cert. 3.1	X	10740010	
5.1.3.2	Point crossings/frogs, with fixed “vee” (complete)	DBS 918 142	X	II	2	Insp. Cert. 3.1	X	10740010	*** Company plaque
5.1.3.3	Point crossings/frogs, heat-treated, with fixed “vee” (complete)	DBS 918 142	X	II	2	Insp. Cert. 3.1	X***	10740010	*** Company plaque
5.1.3.4	Point crossings/frogs, heat-treated, with moveable“vee” (complete)	DBS 918 142	X	II	2	Insp. Cert. 3.1	X***	10740010	*** Company plaque
5.1.3.5	Bainitic point crossings/frogs, with fixed “vee” (complete)	DBS 918 141	X	II	2	Insp. Cert. 3.1	X***	10740010	*** Company plaque

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Structural level	Product groups/products	Applicable documents	HP Q	In-spection level	Number of Regular Insp./year	Documentation	Manufactures's mark	Material-group	Comments
5.2	Crossings	DBS 918 120	X	II	2	Insp. Cert. 3.1	X	10740040	(see 5.1.1, 5.1.2, 5.1.3)
5.3	Rail extensions	DBS 918 120	X	II	2	Insp. Cert. 3.1	X	10740040	(see 5.1.1.)
5.4	Switch fastenings								
5.4.1	Check blocks								
5.4.1.1	Check blocks (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	If necessary, welding in according with 7.3
5.4.1.2	Check blocks (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.2	Anchoring elements for switches	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.3.1	Rail supports ² / Switch supports ² /Block supports ²	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
5.4.3.2	Rail supports/Block supports/Studs ² (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.3.3	Rail supports/Block supports/Studs ² (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.3.4	Support plates (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.3.5	Support plates (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.4	Ground plates	DBS 918 025, DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.5	Sliding chair plates		X²	II²	2²	APZ 3.1²	X²	10750010²	
5.4.5.1	Sliding chair plates/Tongue root plates ² (rolled, forged)	DBS 918 025 ² , DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	If necessary, welding in according with 7.3
5.4.5.2	Sliding chair plates/Tongue root plates ² (castes)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.5.3	Sliding chairs (sliding plates(forged) ²	DBS 918 125	-	-	-	Insp. Cert. 3.1	X	10750010	

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Structural level	Product groups/products	Applicable documents	HPQ	In-spection level	Number of Regular Insp./year	Documentation	Manufactures's mark	Material-group	Comments
5.4.6	Check rail support plates								
5.4.6.1	Check rail support plates (forged)	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
5.4.6.2	Check rail support plates (casted)	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.7	Down holders	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.8	Stuffing box ring followers	DBS 918 280	X	II	2	Insp. Cert. 3.1	X	10750020	
5.4.9	Peak joint plates	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	
5.4.10	Central plates	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10750010	
5.5	Switch bolts and -nuts/components			II ²					
5.5.1	Switch bolts in according low	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10750010	
5.5.2	Nuts in according low	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10750010	
5.5.3	Support plates	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	
5.6.	Switch setting systems			II ²					
5.6.1	Lockings (of points), facing point locks, HRS-, WKV-, WEV-, CKA-, EVZ-, EVH-lockings ²	low-drawings	X	II	2	Insp. Cert. 3.1	X	10740020	montiert
5.6.1.1	Stoppers, guide pieces			II ²					
5.6.1.1.1	Stoppers, guide pieces (forged)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.1.2	Schieberstangen (solid material)	DBS 918 025	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.2	Detector rods, coupling rods in accord. low	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	welding in accord. with 7.3
5.6.1.3	Permanent locking devices	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10750010	

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Structural level	Product groups/products	Applicable documents	HPQ	In-spection level	Number of Regular Insp./year	Documentation	Manu-fac-tures's mark	Material-group	Comments
5.6.1.4	Locking clamps, latches			II ²					
5.6.1.4.1	Locking clamp bolts	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.2	Locking pieces bolt/clamping bands	DBS 918 024	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.3	Blocks with threaded bolt	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.4	Guide pieces	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.5	point locking bars/Locking anchors (clamping bolts, clamping bands)	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.6	Locking plates	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.7	Lock catches	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.8	Locking boxes/locking tuppets	DBS 918 125	X	II	2	Insp. Cert. 3.1	X	10740020	
5.6.1.4.9	Pin joint to stretchers/bar brackets ²	DBS 918 125, DBS 918 126 ²	X	II	2	Insp. Cert. 3.1	X	10740020	welding in accord. with 7.3
5.6.2	Frog ² - and Switch blade rolling devices	low-drawings	X	II	2	Insp. Cert. 3.1	X	10740030	montiert
5.7	Sleeper connecting plates								
5.7.1	Sleeper connecting plates (unpadded)	DBS 918 025 ² ; DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	welding in accord. with 7.3
5.7.2	Sleeper connecting plates (padded)	DBS 918 145-2	X	II	2	Insp. Cert. 3.1	X	10750010	
5.8	Coupling joint plates	DBS 918 126	X	II	2	Insp. Cert. 3.1	X	10750010	
5.9	Special constructions (rail slippers, lift bridge devices, etc.)	low-drawings	X	II	2	Insp. Cert. 3.1	X		

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6	Ballast			II					
6.1	Track ballast (new)			II					
6.1.1	Track ballast (new)	DBS 918 061	X	II	4	-	-	10730010	CE-marking, > 6 % quantity supplied
6.1.2	Track ballast (new)	DBS 918 061	X	II	2	-	-	10730010	CE-marking, ≥ 1 %, ≤ 6 % quantity supplied ²
6.1.3	Track ballast (new)	DBS 918 061	X	II	1	-	-	10730010	CE-marking, < 1 % quantity supplied
6.2	Track ballast (reconditioned) - mobile			II					
6.2.1	Track ballast (reconditioned) - mobile	DBS 918 061	X	II	4	-	-	10770030	CE-marking, > 6 % quantity supplied
6.2.2	Track ballast (reconditioned) - mobile	DBS 918 061	X	II	2	-	-	10770030	CE-marking, ≥ 1 %, ≤ 6 % quantity supplied ²
6.2.3	Track ballast (reconditioned) - mobile	DBS 918 061	X	II	1	-	-	10770030	CE-marking, < 1 % quantity supplied
6.3	Track ballast (reconditioned) - stationary			II					
6.3.1	Track ballast (reconditioned) - stationary	DBS 918 061	X	II	4	-	-	10770030	CE-marking, > 6 % quantity supplied
6.3.2	Track ballast (reconditioned) - stationary	DBS 918 061	X	II	2	-	-	10770030	CE-marking, ≥ 1 %, ≤ 6 % quantity supplied ²
6.3.3	Track ballast (reconditioned) - stationary	DBS 918 061	X	II	1	-	-	10770030	CE-marking, < 1 % quantity supplied
6.4 ²	Track ballast (reconditioned) - on track	DBS 918 061	X	II	1	-	-	10770030	CE-marking
6.5 ²	sub-ballast mats	DBS 918 071-1	X	II	2	Insp. Cert. 3.1	X	10750020	

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7	Key machining processes								
7.1	Machining of superstructure components	alle DBS	X	-	-	-	-		In connection with 1 up to 5
7.2	Quenching and tempering of common crossings	DSB 918 142	X	II	2	Insp. Cert. 3.1	-		
7.3	Manufacture of welded superstructure Components (excluding rails)	DBS 918 025, DBS 918 125	X	II	2	Insp. Cert. 3.1	-		

8²	- keep free - ²								
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9	Other Track Superstructure Materials				track				
9.1 ²	Other Track Superstructure Materials without Inspection Certificate 3.1		-	-	-	-	-		
9.2 ²	Other Track Superstructure Materials with Inspection Certificate 3.1		-	-	-	Insp. Cert. 3.1	X		Manufacturer's mark, if appl. (depending on the standard)
9.3 ²	Drawded Track Superstructure Materials, in devolpment or planed for Sperren		-	-	-	-	-		through design support and quality assurance

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Notes:

In case of multiple selection of the manufacturing process in the drawing with only one material number, "Casting" was usually selected.

If no clear assignment was possible, the assignment was made in SAP to the higher-level product group.²

For "packets", the assignment was made in SAP to the product group.²

All changes compared to the previous version valid from 01.02.2021 were marked with "2" in the respective field.

Both editorial changes and additions were necessary, as the transfer of the new structure numbers to SAP could only be completed.