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The Trans-European Conventional Rail System

**“TELEMATIC APPLICATIONS”
subsystem for Freight Services**

**THE INFRASTRUCTURE DATA
AND
THE ROLLING STOCK DATA**

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Intended Audience

This document is one of the references to be used by designers and engineers responsible for the proper implementation of the TAF TSI requirements regarding message exchange according chapter 4.2 of the CR TSI Telematic Applications for Freight Services.

Evolution of this Document

Distribution:

Any new version of the document incorporated in any new version of annex E of the TAF TSI approved by the EC in accordance of the procedure set out in Article 21(2) of the Directive 2001/16/EC shall be distributed to:

AEIF	AEIF SSG Telematic Applications	Brussels
EC	DGTREN	Brussels
European Railway Agency	As soon as it will be created	Valenciennes

The document shall be distributed by e-mail in MS-Word format or in PDF Format and published on the AEIF Web-site www.aeif.org.

Configuration Management:

Any change requests on the content of this document shall be reported to the TAF TSI responsible member at AEIF and at the European Railway Agency.

Table of Contents

0.	Introduction	5
0.1.	Purpose	5
0.2.	References	5
0.2.1.	Standards and Guidelines	5
0.2.2.	Other References	5
1.	The Infrastructure Restriction Notice Database.....	6
1.1.	Line restriction data set.....	6
1.2.	Station restriction data set.....	7
2.	The Rolling Stock Reference Databases.....	8
2.1.	Administrative data set	8
2.2.	Design data set.....	9
3.	The Rolling Stock Data within the Wagon and Intermodal Unit Operational Database	13
3.1.	Temporary restriction data set	13
3.2.	Operational data set	14
4.	Complex data type definition	16
5.	Various coding lists	20
5.1.	Coding of the nature of damage:	20
5.2.	Coding of forwarding restrictions.....	27
5.3.	Coding of removable accessories and special equipment on wagons.....	28
6.	Minimum wagon data set for rail freight transport.....	30

0. Introduction

0.1. Purpose

This document is the more detailed description of the Data to be stored in the various databases defined in the TAF TSI. The names of the data elements may be changed during the detailed planning and implementation of the metadata for the central repository. During this phase also the final structure of the elements and the databases must be fixed. The information for an element is structured as follows:

Attribute: define the element in a unique way

Description:

Card.:

Cardinality; defines the number of occurrence of entries

(0,1): entry is optional and has a maximum occurrence of 1

(0,*): entry is optional and has an unlimited maximum occurrence

(1,1): entry is obligatory and has a maximum occurrence of 1

(1,*): entry is obligatory and has an unlimited maximum occurrence

Dim: defines the dimension of the value and the length.

0.2. References

0.2.1. Standards and Guidelines

Id	Title	Doc ID, Edition	Date	Author / Publisher
1	On the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification	Directive 2001/14/EC	26/02/01	EC
2	On the interoperability of the Trans-European conventional rail system	Directive 2001/16/EC	19/03/01	EC

0.2.2. Other References

Id	Title	Doc ID, Edition	Date	Author / Publisher
1	Conventional Rail TSI Telematic Applications for Freight	TAF_TSI_V20_document_22-06-2004.doc Version 2.0	22/06/04	AEIF
2	CR Telematic Applications for freight: Data Definitions and Messages	AEIF_TAF_MesData_V10_040322.doc Version 1.0	22/03/04	AEIF
3	CR Telematic Applications for freight: Glossary (English)	AEIF_TAF_Glossary_V10_040622.doc Version 1.0	22/06/04	AEIF

1. The Infrastructure Restriction Notice Database

1.1. Line restriction data set

Attribute	Description	Card.	Data type
	<i>Line</i>		
LineID	unique Identifier for a line	(0,1)	UnsignedInt
lineName	Line name	(0,1)	String
lineFromTo	Begin – End – of Line	(0,1)	String
NatLineID	State Line Identifier	(0,1)	Complex
	<i>Line Segment</i>		
IM	Infrastructure Manager(s)	(1,1)	String
LineID	National Line Identifier	(1,1)	UnsignedInt
lineFromTo	Begin – End – of Line	(1,1)	String
	<i>Restriction data</i>		
lineMode	Reason for operative restriction (e.g. Maintenance work)	(1,*)	Enumeration
From	Start of restriction	(1,1)	DateTime
until	End of restriction	(1,1)	DateTime
	<i>Current status information</i>	(1,*)	
	Max Train speed		
	Max train length for freight		
	Train Weight		
	Max Axle Weight		
	Max Weight per meter		
	Braking System		
	Traction type		
	Command and Control System	1	
	On Board Radio Equipment	1	

Attribute	Description	Card.	Data type
	Contact code	1	
	Exceptional gauging	1	
	Dangerous goods	1	
	Livestock On Board	1	

1.2. Station restriction data set

Attribute	Description	Card.	Data type
stationID	unique Identifier for a station	(1,1)	UnsignedInt
stationName	Station name	(1,1)	String
IM	Infrastructure Manager(s)	(1,*)	String
stationMode	Reason for operative restriction: Unmanned Off	(0,*)	Enumeration
From	Start of restriction	(0,1)	DateTime
until	End of restriction	(0,1)	DateTime
	Max train length for freight	(0,1)	unsignedInt
	Loading at wagon floor level	(0,1)	Boolean
	<i>Current status information</i>		
	Temporarily speed restriction	(0,*)	String
	Maintenance work	(0,*)	String
	Different exceptions	(0,*)	String

2. The Rolling Stock Reference Databases

2.1. Administrative data set

Attribute	Description	Card.	Dim	Data type
Keeper	Keeper	(1,1)		complex
Registration	State and date of the registration of the equipment	(1,*)		complex
ECVerification	Notified body and date for the EC verification (§ 4, 5 TSI)	(1,1)		complex
	Safety Certification	(1,1)	Y / N	Boolean
SafetyCertification	Entity which has issued the safety certification	(1,1)	Only if “Safety Certification is Y	complex
	Admission type (Category)	(1,1)		Enumeration
Class	Factory series, user series	(1,1)		complex
EquipID	Unique identifier for the rolling stock equipment	(1,1)		12 N
	International frame (e.g. “chassis”) No:	(0,1)		Unsignedint
	Tag Equipment ID	(0,1)		Unsignedint
State	Refusal by State	(1,*)		String
Datex	Special examination date	(0,1)		Complex
	Description of the Special examination	(0,1)		String
	<i>Reconstruction</i>			
	Rebuild manufacturer	(0,1)		String
Datex	Present date for RIV certification	(1,1)		Complex
	Additional Certification for conformity due to special cases (§ 7 TSI – infrastructure not covered by TSI), done by national authorities	(1,*) if any		
Datex	Putting into service	(1,*)		Complex

Datex	Date official scrapping	(1,1)	never	Complex
	Maintenance Plan reference	(1,1)		

2.2. Design data set

Attribute	Description	Card.	Dim	Data type
	Type of the wagon	(1,1)		
	No. of axles	(1,1)	2 N	Unsignedint
	Inner wheel set distance / pivot pitch (max. distance between two consecutive axles)	(1,1)	3 N, dm (rounded up)	Unsignedint
	Wheel diameter	(1,1)		
	Wheel set gauge			
	No. of bogies	(1,1)		
	Bogie pitch (bogie wheel base)	(1,1)		
	Interchangeable axles	(1,1)		
	Axles with variable width	(1,1)		
	Coupling Types 0 = without coupler 1 = non-reinforced coupler < 85t 2 = reinforced coupler = 85t 3 = ultra-reinforced coupler > 85t 4 = automatic coupling	(1,1)	1 N	Unsignedint
	Vehicle Gauge (kinematic gauge)	(1,1)		
	Minimum curve radius	(1,1)	m	3 N
	Minimum vertical radius of yard humps	(1,1)	m	4 N
	Tare weight of wagon (rounded up to the nearest tenth of a tonne)	(1,1)	kg	6 N
	Length over buffers (rounded upwards)	(1,1)	dm	3 N
	Maximum Axle load	(1,1)	tonnes	Decimal3.3
	Maximum Meter load	(1,1)	tonnes	Decimal3.3

Attribute	Description	Card.	Dim	Data type
	Maximum speed conditions empty arising from wagon construction characteristics ¹	(1,1)	3 N Km/h	Unsignedint
	Brake			
	Brake type	(1,1)		
Brake Characteristic	Brake characteristic	(1,1)		Complex
	Deceleration curve	(1,1)		
	Air Brake			
	Type of Air Brake 0 = through brake pipe 1 = G system 2 = P system 3 = mixed G/P system 9 = non coded system	(0,1)		1 N
	Brake change over lever 0 = no braked weight variation device 1 = 2 position "empty/loaded manual or automatic device with indication of changeover weight 8 = linear auto continuous device with indication of max braked weight 9 = non- coded variation device	(1,1)		
	Air Braked mass (according type of air brake)	(1,*)	3 N, tonnes	Unsignedint
	Hand Brake			
	Type of hand-brake 0 = no hand brake 1 = ground operated hand brake 2 = platform operated hand brake 3 = ground operated hand screw brake 4 = ground operated hand lever brake	(1,1)		1 N
	Brake weight of hand brake	(1,1)	tonnes	2 N
	Electrical supply			

¹ Refers to maximum technical authorised speed, even if this speed is only applicable on one railway.
The actual speed depends on load conditions

Attribute	Description	Card.	Dim	Data type
	Electrical supply characteristics	(0,*)		
	Auxiliary supply voltage	(0,*)		
	<i>Technical and commercial characteristics</i>			
	Height of load level above upper surface of rail in unloaded status	(1,1)	4 N, mm	Unsignedint
	Max. Length of load	(1,1)	dm	3 N
	Loading capacity (usable cube)	(1,1)	m3	3 N
	Load area (payload area)	(1,1)	m ²	2 N
	Max. Gross weight (Weight of Cargo)	(1,1)		
	Maximum speed according to load	(1,1)		
	Ferry permitted	(0,1)		
	<i>Environmental characteristics</i>			
	Temperature range	(1,1)		
	Humidity max	(1,1)		
	Noise : by-pass limit on reference track	(1,1)		
	Noise level at stand still	(1,1)		
	Fire protection category	(1,1)		
	<i>Restrictions</i>			
	Hump shunting restrictions	(0,*)		
	Vertical curve caused restrictions (e.g. humping, ferry-angle)	(0,1)		
	Time scale restrictions	(0,*)		
	Geographical limitations	(0,*)		
	Dangerous goods information	(0,*)		
	Other excluded consignments	(0,*)		
	Loading Restrictions (e.g. weight distribution)	(0,*)		
	Technical forwarding restrictions, arising from wagon construction characteristics			

Attribute	Description	Card.	Dim	Data type
	Number (n) of forwarded restrictions (n = 0 if no restrictions)	(1,1)	1 N	Unsignedint
	Type of forwarded restrictions	(0,*)	2 N	Unsignedint
	Restriction or prohibition of use 0 = wagon no subject to any restrictions or prohibitions 1 = Restriction on re-use for a specific commodity on a particular line (special arrangement stipulated by the IM) 2 = restriction on re-use stipulated in the RIV 3 = wagon can be used but must be inspected for technical reasons 4 = wagon cannot be used for technical reasons	(1,1)	1 N	Unsignedint
	Other Restrictions due to damages:			
	Number of restrictions	(0,1)	1 N	Unsignedint
	Restrictions due to damage	(0,*)	4 N	Unsignedint
	<i>Special Inspections</i>			
	Special inspections needed	(1,1)	Yes/no	Boolean
	Date of next Special inspections	(0,1)		Datex
	Interval of Special inspections (e.g. number of months)	(0,1)		Unsignedint

3. The Rolling Stock Data within the Wagon and Intermodal Unit Operational Database

3.1. Temporary restriction data set

Attribute	Description	Card.	Dim	Data type
	Dangerous goods information	(1,*)		
	Restriction or prohibition of use 0 = wagon no subject to any restrictions or prohibitions 1 = Restriction on re-use for a specific commodity on a particular line (special arrangement stipulated by the IM) 2 = restriction on re-use stipulated in the RIV 3 = wagon can be used but must be inspected for technical reasons 4 = wagon cannot be used for technical reasons	(1,1)	1 N	Unsignedint
	Damages causing restriction of use (code list of damages see chapter 6.1 below)	(0,*)	4 N	Unsignedint
	Speed restrictions due to damage	(0,1)	3 N, km/h	Unsignedint
	Other Restrictions due to damages: Number of restrictions	(0,1)	1 N	Unsignedint
	Restrictions due to damage (see code list chapter 6.1 below)	(0,*)	4 N	Unsignedint
	Vertical curve caused restrictions (e.g. humping, ferry-angle)	(0,1)		
	Technical forwarding restrictions, arising from wagon construction characteristics Number (n) of forwarded restrictions (n = 0 if no restrictions)	(1,1)	1 N	Unsignedint
	Type of forwarded restrictions (see code list chapter 6.2 below)	(0,*)	2 N	Unsignedint
	Numbers of types of Removable accessories and special gear accompanying wagon	(0,1)	2 N	20x(2N number, 2N type, 2N number

Attribute	Description	Card.	Dim	Data type
				of the type)
	Type of Removable accessories and special gear accompanying wagon (see code list chapter 6.3 below)	(0,*)	2 N	Unsignedint
	Numbers of Removable accessories and special gear accompanying wagon of the mentioned type <i>Number according the “total numbers of Removable accessories and special gear accompanying wagon”</i>		2 N	
	Special inspections needed	(1,1)	Yes/no	Boolean
	Date of next Special inspections	(0,1)		Datex
	Interval of Special inspections (number of months)	(0,1)		Unsignedint

3.2. Operational data set

Attribute	Description	Card.	Dim	Data type
EquipID	Unique identifier for the rolling stock equipment	(1,1)		12 N
Keeper	Keeper	(1,1)		Complex
	User (Contract of use with the keeper)	(1,1)		Complex
	Actual Duty Holder	(1,1)		Complex
	Speed restriction due to damage sustained	(1,1)		UnsignedInt
	Nature of damage (see code list chapter 6.1 below)	(1,1)	4N	Unsignedint
	<i>Maintenance status</i>			
	Maintenance conditions during hiring period	(1,1)		
	Maintenance cycle	(1,1)		
	Maintenance plan reference	(1,1)		
	Railway or body responsible for maintenance	(1,1)		

Attribute	Description	Card.	Dim	Data type
	Km since last overhaul	(1,1)		
	Date of next overhaul	(1,1)	8 N	Datex
	Permitted tolerance after date of overhaul (number of months)	(1,1)	2 N	Unsignedint
	<i>Repair status</i>			
	Date of last repair	(1,1)		Datex
	Repair location	(1,1)		
	Repair type	(1,1)		
	Major accident data	(1,1)		
	Date of accident	(1,1)		
	Pool Indicator	(0,*)		String
	Actual Brake weight / mass	(1,1)	tonnes	
	Actual Brake position (in, isolated)	(1,1)		
	Vehicle weight loaded	(1,1)		
	Loading Gauge	(1,1)		
	Loading schema (flat wagons for containers / Swap bodies only)	(1,1)		
	<i>Current status data</i>			
	Current loading	(1,1)		
	Load weight	(1,1)		
	Current restrictions	(1,*)	If any	
	Damages to be repaired	(1,*)	If any	
	Fault description	(1,*)	If any	
	Indication loaded / empty	(1,1)	L/E	
	Brake position (G/P/R/RMG)	(1,1)		
	In train	(1,1)	Y/N	Boolean
	Position in train (If in train = Y)	(1,1)		UnsignedInt

4. Complex data type definition

Definition of complex data type “NatLineID”:

Attribute	Description	Card.	Dim	Data type
	One data set for each country, (line may be on more than 1 country)			
State	State	(1,1)		String
Owner	Owner	(1,1)		String
IM	Infrastructure Manager(s)	(1,*)		String
LineID	National Line Identifier	(1,1)		UnsignedInt

Definition of complex data type “TrackLen”:

Attribute	Description	Card.	Dim	Data type
	Track type: Double, Multiple track > 2	(1,1)		Enumeration
	Line length of specified track type	(1,1)	Km	UnsignedInt

Definition of complex data type “TimePeriod”:

Attribute	Description	Card.	Dim	Data type
From	Start of time period	(1,1)		DateTime
until	End of time period	(1,1)		DateTime

Definition of data type “DateTime”:

Attribute	Description	Card.	Dim	Data type
	Time zone ² 0 = West European time 1 = Central European time 2 = East European time 3 = Moscow time 4 = Ural time 5 = Pamir time 6 = Tibet time 7 = Baikal time 8 = China time 9 = Japan (or Vladivostok) time	(1,1)		Enumeration
Date	Date (YYYYMMDD)	(1,1)		UnsignedInt
Time	Time (hhmmss)	(1,1)		UnsignedInt

² The use of “summer” time e.g. of a civil time 60 minutes ahead of the mean civil time of the region concerned, corresponds to a difference of an additional time zone.

Definition of data type “Datex”:

Attribute	Description	Card.	Dim	Data type
	Time zone 0 = West European time 1 = Central European time 2 = East European time 3 = Moscow time 4 = Ural time 5 = Pamir time 6 = Tibet time 7 = Baikal time 8 = China time 9 = Japan (or Vladivostok) time	(1,1)		Enumeration
Date	Date (YYYYMMDD)	(1,1)		UnsignedInt

Definition of data type “Keeper”:

Attribute	Description	Card.	Default	Data type
	Keeper data set			
KeeperID	unique Identifier for a keeper	(1,1)		UnsignedInt
KeeperName	Human name of the keeper	(1,1)		String
UserInfo	Brief description of the keeper	(0,1)		String
Location	Main location of the keeper	(0,1)		String
state	State where the keeper is located	(0,1)		String
UserGrants	Access rights granted to the keeper	(1,*)		Enumeration

Definition of data type “Registration”:

Attribute	Description	Card.	Default	Data type
	Registration data set			
State	State of the registration of the equipment	(1,1)		String
	Date of putting into service in the State of registration	(1,1)		Datex

Definition of data type “SafeCertification”:

Attribute	Description	Card.	Default	Data type
	Safety Certification data set			
State	State issued the safety certification	(1,1)		string
NotifiedBody	Notified body which has issued the safety certification	(1,1)		complex
Datex	Date of the safety certification	(1,1)		complex

Definition of data type “ECVerification”:

Attribute	Description	Card.	Default	Data type
	EC Verification data set			
Datex	Date of declaration of EC verification (§ 4, 5)	(1,1)		Complex

	TSI)			
NotifiedBody	Notified body data set	(1,*)		Complex

Definition of data type “Class”:

	Class data set			
Attribute	Description	Card.	Default	Data type
manufacturer	Name of the manufacturer	(1,1)		String
	Year of construction of the wagon (or bogies)	(1,1)		Datex
	Type of the vehicle by the manufacturer	(1,1)		String
	user classification	(0,*)		complex

Definition of data type “Put into service”:

	Put into service data set			
Attribute	Description	Card.	Default	Data type
state	Country of putting into service	(1,1)		String
	Date of putting into service in Country	(1,1)		Datex
	Station of putting into service	(1,1)		String

Definition of data type “Brake characteristic”:

	Brake characteristic data set			
Attribute	Description	Card.	Default	Data type
	Brake change over weight G unloaded	(0,1)		UnsignedInt
	Brake change over weight G loaded	(0,1)		UnsignedInt
	Brake change over weight P unloaded	(0,1)		UnsignedInt
	Brake change over weight P loaded	(0,1)		UnsignedInt
	Brake weight R unloaded	(0,1)		UnsignedInt
	Brake weight R loaded	(0,1)		UnsignedInt
	Brake weight RMG unloaded	(0,1)		UnsignedInt
	Brake weight RMG loaded	(0,1)		UnsignedInt

Definition of data type “Notified body”:

	Notified body data set			
Attribute	Description	Card.	Default	Data type
NotbodyID	unique Identifier of the notified body	(1,1)		UnsignedInt
NotBodyName	Name of the notified body	(1,1)		String
UserInfo	Brief description of the notified body	(0,1)		String
Location	Main location of the notified body	(0,1)		String
state	State where the notified body is located	(0,1)		String
UserGrants	Access rights granted to the notified body	(1,*)		Enumeration

Definition of data type “User classification”:

User classification data set				
Attribute	Description	Card.	Default	Data type
User	Name of the user	(1,1)		Complex
	Classification of the vehicle by the user	(1,1)		String

Definition of the “Access Control” data set

Access Control data set				
Attribute	Description	Card.	Default	Data type
UserList	List of all users that shall access the Infrastructure Database	(1,*)		UserDataSet
IMList	List of all IMs that shall access the Infrastructure Database	(1,*)		IMDataSet
RUList	List of all RUs that shall access the Infrastructure Database	(1,*)		RUDataSet

User data set				
Attribute	Description	Card.	Default	Data type
UserID	unique Identifier for an human user	(1,1)		UnsignedInt
UserName	Name of the user	(1,1)		String
UserInfo	Brief description of the user	(0,1)		String
UserGrants	Access rights granted to the user	(1,*)		Enumeration

IM data set				
Attribute	Description	Card.	Default	Data type
IMID	unique Identifier for an Infrastructure manager	(1,1)		UnsignedInt
IMName	Name of the IM	(1,1)		String
IMInfo	Brief description of the IM	(0,1)		String
IMGrants	Access rights granted to the user	(1,*)		Enumeration

RU data set				
Attribute	Description	Card.	Default	Data type
RUID	unique Identifier for an Railway Undertaking	(1,1)		UnsignedInt
RUName	Name of the RU	(1,1)		String
RUInfo	Brief description of the RU	(0,1)		String
IMGrants	Access rights granted to the user	(1,*)		Enumeration

5. Various coding lists

5.1. Coding of the nature of damage:

Structure:

The standard numerical coding of information concerning damage comprises four digits:

- The first 3 of these digits define the part affected by the damage, as well as the damage itself (table 1)
- The fourth digit gives the cause of the damage (table 2)

Table 1:

Assembly Component Damage or anomalies	Code
Running Gear	100
Complete running gear	110
Complete running gear to be checked	111
Axle	120
All axle damage, with failure	121
All axle damage, without failure	122
Monobloc wheels	130
Displaced wheel	131
Wheel cracked or broken	132
Running tread with flat, build-up of metal, wear, crushing or scalling	133
Worn flange (level, cutting, thinned, etc.)	134
Canted wheel	135
Tyred Wheel	140
Displaced wheel	141
Centre, web, spoke cracked or broken	142
Running tread with flat, build-up of metal, wear, crushing or scalling	143
Worn flange (level, cutting, thinned, etc.)	144
Type loose, shaky, cracked or broken, tyre clip	145
Roller bearing boxes	150
Heating of box with failure of journal	151
Heating of box without failure of journal	152
Axle-box case cracked or broken	153

Assembly Component Damage or anomalies	Code
Cover of box loose, broken or missing	154
Plug missing	155
Escaping grease	156
Smooth bearing boxes	160
Heating of box with failure of journal	161
Heating of box without failure of journal	162
Suspension	200
Complete suspension	210
Nose	211
Spring	220
Sagging spring	221
Plate or coil cracked or broken	222
Linkage	230
Brackets or supports: damage to fixing	231
Brackets or supports: other damage	232
Rings (except damper rings), suspension rods, bearings	233
Suspension link pins (including stop)	234
Damper	240
Including fixing and control	241
Brake	300
Complete brake	310
Brake to be checked	311
Pipe and valve	320
Pipe connection	321
Valve, release valve, pressure gauge	322
Half-coupling	323
Main assembly	330
Triple valve, old distributor	331
Modern distributor	332
Other air components	340
Reservoir	341
Cylinders and cylinder accessories	342
Empty-loaded pneumatic relay	343
Weighing device	344

Assembly Component Damage or anomalies	Code
Adjusters and mechanical “empty – loaded” devices	350
Adjusters and accessories	351
Empty-loaded (including mechanical part of the auto-continuous-device)	352
Rigging	360
Safety shackle	361
Pins (including stops)	362
Shoes, blocks, block holders	363
Hand brakes	364
Other mechanical components	370
Remote controls	371
Half-coupling bracket	372
Underframe of wagon and bogie – complete vehicle	400
Complete vehicle	410
Incorrect buffing height	411
Damage or anomalies to the complete vehicle	412
Complete wagon underframe	420
Complete underframe distorted or out of square	421
Framework of the wagon underframe	430
Headstocks	431
Cross-members (including centre pin)	432
Longitudinal girder, centre beam	433
Deflection, side-sill	434
Complete bogie underframe or bissel	440
Complete underframe distorted or out of square	441
Framework bogie underframe (or bissel)	450
Sole bar, flange	451
Bolster beam	452
Underframe / bogie connection	460
Pivot bearing	461
Transum	462
Axle guards	470
Semi-axle guards	471
Wear liner or axle-box guard	472

Assembly Component	Code
Damage or anomalies	
Fixing of the axle guards	473
Axle guide stay	474
Buffing and draw	500
Buffing	510
Complete buffer jammed or missing	511
Plunger, shank, disc head	512
Guide	513
Steel or rubber spring	514
Hydroelastic or hydropneumatic spring	515
Impact post, support block	516
Draw	530
Complete draw gear damaged	531
Coupling screw and pin	532
Draw hook (including those with threads, nuts and pin)	533
Draw bar (including assembly parts, semi-casings and bolts)	534
Draw spring	535
Device connecting coupled wagons	536
Hook for the screw when not in use	537
Automatic coupling	550
Complete automatic coupling	551
Locking mechanism	552
Control devices	553
Coupling body	554
Buffing and draw system (pin, spring device, coupling link, compression stops, draw stops, propelling plate)	555
Vertical clearance device	556
Suspension device	557
Pipe connections	558
Air connections	559
Electrical connections	561
Body or superstructure – Miscellaneous accessories – Special equipment – Paint and inscriptions	600
Complete body	610
Damage to the complete body (e.g. distorted body)	611

Assembly Component Damage or anomalies	Code
Body framework	620
All uprights	621
Cantrail or upper edge of the body or rail	622
End walls	630
Fixed end wall or edge:	
planks	631
Plywood panel	632
Plate	633
Other materials	634
End door or end movable flap or moving end:	
impossible or difficult to operate the assembly	635
Hinges – pivots	636
Closing or locking device	637
door or end movable flap or moving end: Other damage	638
Side walls	650
Fixed part of the side walls:	
Planks	651
Plywood panel	652
Plate	653
Other materials	654
Door – Folding – sides, sliding wall – side screen:	
Impossible or difficult to operate	655
Guiding device (rails, runners)	656
Control mechanism	657
Rollers, hinges (including pins and stops)	658
Closing or locking devices or stops	659
Framework and panelling of door and side flap: leaf screening material or cloth	661
Other damage	662
Slatted shutters	663
Stanchions – missing,	664
Stanchions damage	665
Upper part of the body	680
Fixed roof including false ceiling, but not including heat-	681

Assembly Component Damage or anomalies	Code
insulating covering	
Opening roof, telescopic hood, tipping roof, trap door, cover:	
Impossible or difficult to operate	682
Guiding device (rails, runners)	683
Control and locking mechanism	684
Panel, sheet, hood, cover	685
Mechanised sheeting:	
Guiding device	686
Sheet	687
Other damage	688
Lower part of the body	710
Floor – Softwood	711
Floor –Oak	712
Floor –Plate	713
Floor –Other	714
Cross-piece	715
Lower openings (trap, flap, valve)	
Impossible or difficult to operate the assembly	716
Poor sealing of the assembly	717
Guiding device	718
Control and locking mechanism	719
Closing device (trap, flap, valve)	721
Other damage	722
Miscellaneous accessories	740
Label holder, frame	741
Corner step	742
Other step	743
Steady handle, handrail, coupling rail	744
Cable hook and hook bracket	745
Signal bracket	746
Inscription plate, publicity plate movable shutter, ladder, railing, gangway	747
Special equipment	750
Equipment for heat insulation, refrigeration or heating:	

Assembly Component	Code
Damage or anomalies	
Heat insulation	751
Ice box	752
Heater	753
Mechanical refrigeration set	756
Ventilation	758
Other damage	759
Devices for scotching or securing the load	761
Devices for rendering the body movable (tipping body, etc.)	764
Shell of tank wagons (including the cradles):	
Valves, tap fittings	767
Other damage	768
Controls	769
Slides	771
Loading or unloading devices	772
Paint and inscriptions on the body and underframe:	780
Paint, except inscriptions	781
Erroneous inscriptions	782
Illegible inscriptions	783
Withdrawals without damage or anomaly of an assembly, withdrawal already advised	900
Withdrawal without damage or anomaly of an assembly for periodic operation on the basis of information relating to overhaul	910
For intervention in respect of overhaul requirements when the overhaul is not overdue (change of frequency, bringing up to date the overhaul panel, etc.)	911
For systematic inspection between overhauls	912
For lubrication of axle boxes	913
Other withdrawal without damage or anomaly of an assembly	920
For application, modification, marking, re-identification, testing, examination following testing, checking, investigation, research, taring, sampling of parts or assemblies, etc.	921
Withdrawal already advised	930
Withdrawal for additional repair (damage or anomaly already advised by another establishment)	931

Table 2:

Cause of damage	
Cause unknown or not advise	0
Causes due to the stock	
Fatigue or wear in service, decrepitude, oxidation, rotting, insufficient lubrication or greasing	1
Previous repair defective, insufficient overhaul, poor workmanship during construction	2
Poor design	3
Poor quality of materials	4
Other causes due to the stock	5
Causes due to operation	
Shunting impact, collision, side collision, derailment	6
Lack of precaution during loading and unloading, overloading, poor distribution of the load.	7
Other causes due to operating	8
Miscellaneous causes	
Causes known which do not come within sections 1 to 8 above	9

5.2. Coding of forwarding restrictions

This code is designed to identify any special aspects or restrictions which might be relevant to wagon handling operations in train formation yards or in trains because of technical feature of the wagon or its load.

Description	Code
Shunt only when screw brake operable by ground staff	07
Tank wagon loaded with liquid	08
Loaded wagon	09
Wagon other than bogie wagon with wheelbase of more than 9 metres	11
Bogie wagon with distance between wheels of more than 14 metres and up to and including a distance of 17,50 metres	12
Bogie wagon with distance between wheels of more than 17,50 metres	13
Wagon not allowed over to hump	15
Do not fly shunt or gravity shunt	16
Place this wagon at the front of the train	41

Description	Code
Place this wagon at the rear of the train	42
Wagon forming part of a consignment of several wagons	61
Wagon forming part of a group of wagons from which it must not be separated	62
Outsize load	63
Shunt with care	70
Shunt with special care	71
Piggy-back wagon type II (P50 – K46 – W40)	92
Wagon containing gaseous substance	94

5.3. Coding of removable accessories and special equipment on wagons

The coding applies to those parts of the wagon which are not permanently affixed to a wagon, in particular those which are attached by screw, and which it must be possible to remove temporarily for operating purposes and put back in place.

Description	Code
Removable stanchion	1
Removable side flap of flat wagon	2
Removable end flap of flat wagon	3
Removable side rail	4
Removable intermediate upright for securing the load	5
Stanchion chain	6
Removable handle and wheel for winch on car-carrying wagon	7
Ridge or sheeting bar	8
Swivelling bolster (with stanchions)	9
Intermediate floor (for small livestock)	10
Frame of the intermediate floor	11
Plank of the intermediate floor	12
Grating panel (for fruit...)	13
Folding retaining panel in front of doors (for bulk cereals	14
Cage for poultry or small livestock	15
Perch for transport of poultry	16
Trough	17
Trough support	18

Description	Code
Separation bar (chest rail or separation strap of stable wagon)	19
Separation panel or movable swinging of wall of stable wagon	20
Movable deck of stable wagon	21
Head-stall of stable wagon	22
Folding stool of stable wagon	23
Coupling rod	24
Floor grill (iron not grating)	25
Ice bunker	26
Ice bunker screen	27
Ice box frame	28
Trestle or bar with hooks for hanging meat	29
Movable cross-member of wagon with low loading plane	30
Removable support	31
Mooring cross-member	32
Movable floor panel	33
Oxygen tube	34
Scotch	35
Skid bar with or without shoes	36
Mooring strap	37
Beam for movable ramp	38
Loading cradle for wagons with swivelling bolster (for boilers,...)	39
Spare heating half-coupling	40
Fire extinguisher	41
Scotch for car wheels	42
Gangway loading ramp	43
Hand rail bar	44
Hand rail elbow section	45
Brake screw	46
Metal cradles for rolls of metal sheeting	47

6. Minimum wagon data set for rail freight transport

The following table shows the rolling stock data set, which must be available as a minimum for the execution of a freight transport. This is a subset of the data for rolling stock database as listed above. If these data are not available electronically, the RU must put in these data manually into the system.

These wagon data must be typed in manually if electronically not available
Factory series, user series Standardised information is needed, e. g. wheel diameter, Gauge, interchangeable axles, axles with variable width, suspension-characteristics
Unique identifier for the rolling stock equipment
Numbers. of bogies
Bogie pitch (bogie wheel base)
Numbers. of wheel sets (no of axles)
Inner wheel set distance / pivot pitch (max. distance between two consecutive axles)
Tare weight (of wagon) (rounded up to the nearest tenth of a tonne)
Length over buffers
Maximum Axle load
Maximum Meter load
Maximum speed conditions, arising from wagon construction characteristics ³
Brake type
Brake characteristic
Deceleration curve
<i>Air Brake</i>
Type of Air Brake
Brake change over lever

³ Refers to maximum technical authorised speed, even if this speed is only applicable on one railway.
The actual speed depends on load conditions

These wagon data must be typed in manually if electronically not available
Air Braked mass (according type of air brake)
<i>Hand Brake</i>
Type of hand-brake (0 or 1)
Brake weight of hand brake
Electrical supply characteristics
Auxiliary supply voltage
Height of load level above upper surface of rail in unloaded status
Max. Length of load
Loading capacity (usable cube)
Load area (payload area)
Loading Restrictions
Load limits
Hump shunting restrictions
Ferry permitted
Time scale restrictions
Max. Gross weight (Weight of Cargo)
Maximum speed according to load / Restriction
Term of carriage caused restrictions
Excluded consignments (Restriction or prohibition of use)
Dangerous goods information
Restriction or prohibition of use
Speed restrictions due to damage
Other Restrictions due to damages
Vertical curve caused restrictions (e.g. humping, ferry-angle)
Minimum curve radius
Minimum vertical radius of yard humps

These wagon data must be typed in manually if electronically not available

Maintenance conditions during hiring period

Maintenance cycle

Maintenance plan reference

Railway or body responsible for maintenance

Km since last overhaul

Date of next overhaul

Permitted tolerance after date of overhaul (number of months)

END OF DOCUMENT