STS Rail Transport System Loading Guidelines

Contents:

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Changes to the previous version are marked in green

Loading Instructions for the STS Rail Transport System

1. General

The **STS** rail transport system was developed by Stahlberg Roensch GmbH. Its further development and operation – including leasing – is handled by **Vossloh Logistics GmbH** or carried out on behalf of **Vossloh Logistics GmbH**.
Parties who use the STS system bear sole responsibility and are liable for the lessor's indemnification against any damage that the load may sustain. Before commencing any loading procedures, the user must satisfy himself on his own authority that the STS is suitable for the purpose for which the user intends to use it. The STS can only be leased in the fully-assembled configuration, i.e. standard construction flat wagons with STS racks mounted.
The wagon groups are to be configured as STS units for the purposes of loading and transport in accordance with the vehicle dispatch directives of **Vossloh Logistics GmbH**. All wagons must be coupled as per the marshalling provisions (see Annex 2).
The following restrictions apply: an assembled STS unit is configured with a bulkhead wagon at each end, and these bulkhead wagons are equipped with a positioning system. With single-tiered loading, the bulkhead wagons can be located centrally in the STS unit. The vehicle dispatcher will duly provide the shipper (the user as per the **G**eneral **C**ontract of **U**se) with a detailed layout showing the wagon numbers.
Before using the STS units, the shipper must ensure that the wagons and the STS racks mounted on them are in good order. Any damage discovered should be reported in writing to the ECM responsible, whose address can be found in the Annex and on both sides of the freight wagons themselves. If in doubt, consult the ECM directly.
Loading complete lengths of rail onto the STS, ideally using a gantry crane, is the proper way to load the wagons. Care must be taken to ensure that the structural components and equipment mounted on the sides of the STS units (stakes, GPS, etc.) are not damaged in the process.
The shipper assumes full liability for any damage to the STS units sustained during the loading process, and/or for the loss of structural components and/or fastening equipment. Similarly, the user (as per the GCU) is liable for any damage to the train wagons, superstructure (STS) and loads sustained during the period of use.

2. General Safety Instructions

In addition to the specifications in this user's guide, the user also bears sole and unconditional responsibility for compliance with the provisions that apply in the track area and during transport and unloading of rails, especially the relevant accident prevention regulations. The user must comply with the exact wording of any applicable national regulations.

During transport or when working on the wagons, rail support arms are to be kept either in the loading position or swung in towards the direction of travel and securely locked in the designated holders. Rail support arms should never be left half open. It is only permissible to open the bulkhead doors for the purpose of loading or unloading, and then only on the loading side. At all other times these doors are to remain closed and locked.
The freight wagons have no illumination. As such, there is the risk of tripping when walking along the wagons. There is also the danger of falling when stepping from one wagon to the next, as well as the risk of slipping when there is rain, snow or frost. The movements of the rail support arms and bulkheads constitute a crushing hazard.
Furthermore, some additional restrictions may apply when using the STS system in the winter months due to the accumulation of ice, snow or freezing rain. Accumulations of any kind need to be removed in an appropriate manner, and a proper lubricating film is to be applied before loading commences (Annex 4). The use of thawing agents or abrasives is not permitted for removing these accumulations. It is the shipper's responsibility to create the conditions necessary for loading to be performed in a safe and proper manner.
Every shipper (user as per the GCU) who works with the STS units is obliged to provide his personnel with verifiable instructions on the use of these loading guidelines.

Driving loaded STS units through curve radii < 150 m is strictly prohibited.

3. Loading

The following safety clearances are to be maintained, even after partial unloading:

A = <u>Clearance</u>
The following clearances from the ends of the rails to the end-boards and/or bulkheads on the last wagon, or to other closed and unoccupied rail support arms must be observed:

Rail lengths up to 30 m	min. 150 cm
Rail lengths from 30 up to 60 m	min. 150 cm
Rail lengths from 60 up to 90 m	min. 150 cm
Rail lengths from 90 up to 120 m	min. 150 cm
Rail lengths from 120 up to 180 m	min. 150 cm

B = <u>Safety clearances</u>
For rails loaded end to end, e.g. two "rail clusters" of 60 m each, an empty wagon must be placed between the rail clusters to act as a "safety wagon". Either an STS center wagon or a standard flat wagon can be used as the safety wagon.

C = <u>Overhanging rails</u>
The ends of the rails (also applies to short lengths) can extend beyond the first or last occupied base support and/or rail support arm by between a minimum of 1.5 meters and a maximum of 4 meters.

D = <u>Position</u>
The rails must always be loaded centrally on an STS transportation unit.
In order to allow the <u>*necessary movement*</u> of the rails when traveling in curves, there must be strict compliance with the safety clearances stated in points A to C above.

<u>Transport between manufacturing plants</u> <u>(Loading and unloading using a portal crane)</u>
Each tier can only be loaded with one type of rail profile. Transporting different rail profiles on the same tier is strictly prohibited.

IMPORTANT: When transporting rails from one plant to another, the rail support arms of any empty STS frames are to be locked into the "open" position for the duration of the transport.

<u>Transport from manufacturing plant to construction site</u> <u>(portal crane loading / pull off and pull on)</u>
Within Germany, each tier can be loaded with different rail profiles. Different rail profiles on one tier must be distributed symmetrically in order to prevent rails from jamming under the support arm(s) located above the arrangement.

<u>Different rail lengths on one tier</u>
If a tier is loaded with rails of the same profile but different lengths, the shorter rails must be loaded on the inside so that the longer rails lock the shorter ones in. The values given in A to C also apply to the shorter lengths of rail.

<u>Rails lying behind each other in the same layer</u>
For transports within Germany, different rail lengths may be loaded in one layer behind each other.
For rails lying behind each other in the same layer, double the minimum distance between the rail ends. Ideally, the rails are enclosed by outer, longer rails.

Combining vehicle categories
Combining wagons of different categories (1000 Series or 2000 Series, etc.) is only permitted after consulting VLOG Wagon Management (see Annex 1 for contact details). In this case, a wagon with its bulkhead mounted, properly closed and locked must be placed at the front and rear ends of every STS unit. In the case of a single-tiered load, the bulkheads located centrally on the STS unit can be locked in the open position.

Using safety wagons
A safety wagon is to be used when transporting rails if the clearance limits described under A cannot be complied with or are exceeded. The safety wagon must be a wagon belonging to an STS unit..

Single-tiered load
With single-tiered loading (rails on the base supports only) haulage can also be carried out without bulkheads or with a bulkhead wagon located in the middle of the STS unit. The end plates on the last wagon are to be raised when transporting loads in this manner.

Minimum and maximum rail lengths
The ST system must not be used to transport rails shorter than 15 meters or longer than 180 meters.

Rails with insulated joints
Rails with insulated joints must be loaded such that there can be no contact between the insulated joints of adjacent rails. When a rail is locked in place with a locking pin, its insulated joint must be a sufficient distance away from the locking pin (see also Section 4, Securing the Load). Unloading should be performed with due caution.

STS units with clamping blocks
Only one type of rail can be loaded on each tier. Combining several rail types on one tier is strictly prohibited as in this case the shorter rails would not be securely clamped in place.

The applicable operating instructions for the clamping block are to be considered when applying the above specifications for loading the STS units.

All the tiers must be fully loaded when using the clamping block (see Annexes 3 and 6).
Only then can the clamping block develop its entire clamping force. Exceptions must be agreed with the responsible ECM.

Before using the clamping system, approx. 1 m in front of and behind the clamping system, the rail package has to tighten together with lashing straps in accordance with the *UIC Loading Guidelines, Volume 2, Chapter 0.6 - Loading Information, Disposable Binder for Cargo Securing*.

4. Securing the load

The rail support arms of each tier need to be swung in and locked in position on all the STS frames that are supporting rails. When swinging a rail support arm closed, ensure that its closing mechanism is locked into position properly and that the rail support arm with its synthetic inlay is resting horizontally on top of the rail-heads underneath. When loading each individual horizontal tier, the locking pins must be removed from their storage places on the respective STS frames and inserted into their specifically designed slots in the base supports and rail support arms as follows:

a Locking pins or L-shaped synthetic blocks are required on the STS frames directly above the wagon's bogies (STS frames 1 and 4) and must be inserted next to the bases of the outside rails on each tier, and also on each of the last STS frames that is supporting the load or an individual rail.

b Each partially loaded compartment must also be secured using locking pins on the inside. This also applies to longer rails used to hold in shorter lengths.

c In order to prevent the rails from sliding sideways, each locking pin is to be placed in its appropriate empty slot, which is the nearest after adding together the widths of the rail bases. The load shouldn't be jammed in too tightly; ideally there should be 10 cm of clearance between the base of the rail and the locking pins. Multiple locking pins should be used if required, e.g. when hauling rails of different lengths creates gaps. Once loaded, the rails may need to be pushed together on the bottom and rail support arms so that their bases are touching.

With rails resting on a single wagon only, greasing the contact surfaces of the base supports and rail support arms is not permitted.

When loaded rails extend over more than one wagon, biodegradable grease (e.g. Fuchs Plantogel 2N or grease with similar properties) must be applied to the contact surfaces mentioned above (see Annex 2).
Exceptions here are STS frames equipped with synthetic or wooden inlays on the base supports or rail support arms. With this STS configuration, the rail bases rest on synthetic material or wood. No locking pins are used on these frames. The lowest and middle tiers must always be loaded to full capacity. Rails on the top tiers must also be evenly distributed in their compartments with no more than one rail difference between one side and the other.

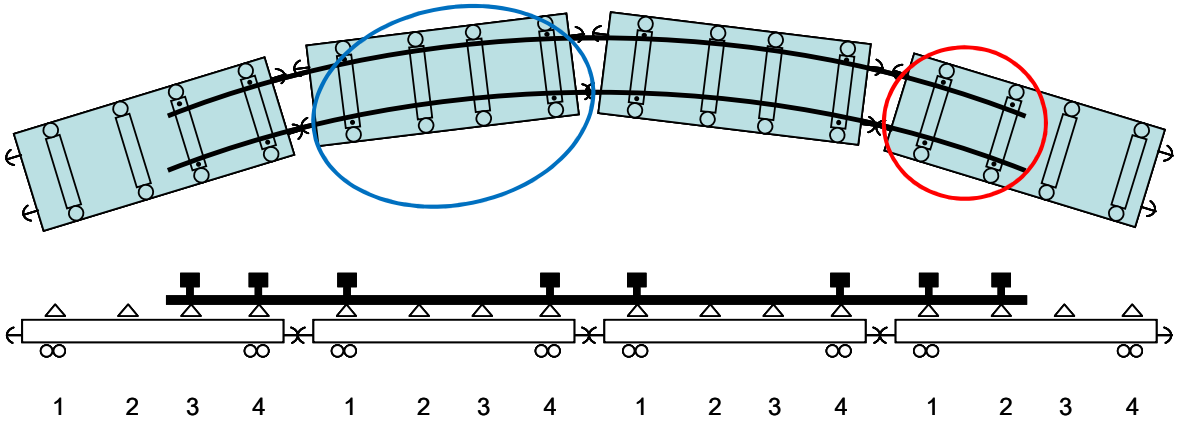
The bulkheads (= 2 doors) on the first and last wagons of the STS unit must be closed and locked when hauling! The doors are closed and locked when they are hard up against the stop with the locking frame in the upright position and the retaining latch is pushed down and locked in place in the opening of the doors.
Alternatively, in the event that the bulkheads or parts of the bulkhead system are not functioning correctly, the unoccupied STS frames at the bulkhead wagon end must be closed and latched (if so equipped). Furthermore, a damage report is to be sent immediately to the ECM responsible via email. If necessary, a safety wagon is to be used.

When opening the bulkhead, the doors must be swung a full 90° against the stop until the safety latches catch hold. The bulkhead doors are now locked in the open position.

Annex 1 – Positioning locking pins

Locking pins are to be inserted in the front and rear STS frames on each wagon. Locking pins are not placed in the inside STS frames of a wagon. (blue circle). Locking pins must also be placed in the last STS frame that is supporting a load on the wagon where the ends of the rails are (red circle).

Visual representation of an STS unit travelling through a curve:



Pin positions on STS frames 1 to 4 on each wagon

Locking pins above bogie: rails laterally restrained

Without locking pins: rails slide freely

Locking pin in a rail support arm

Annex 2 – Coupling the STS

Scope:	This procedure describes the coupling and uncoupling of railway wagons equipped with the STS Rail Transport System (STS units). It must be observed by all users, and instruction in its use is available in individual cases through Wagon Management at Vossloh Logistics GmbH (keeper and ECM).

Guidelines:	The requirements from the following regulations must be complied with: - Part B of VDV Directive 757 - local directives - national regulations.

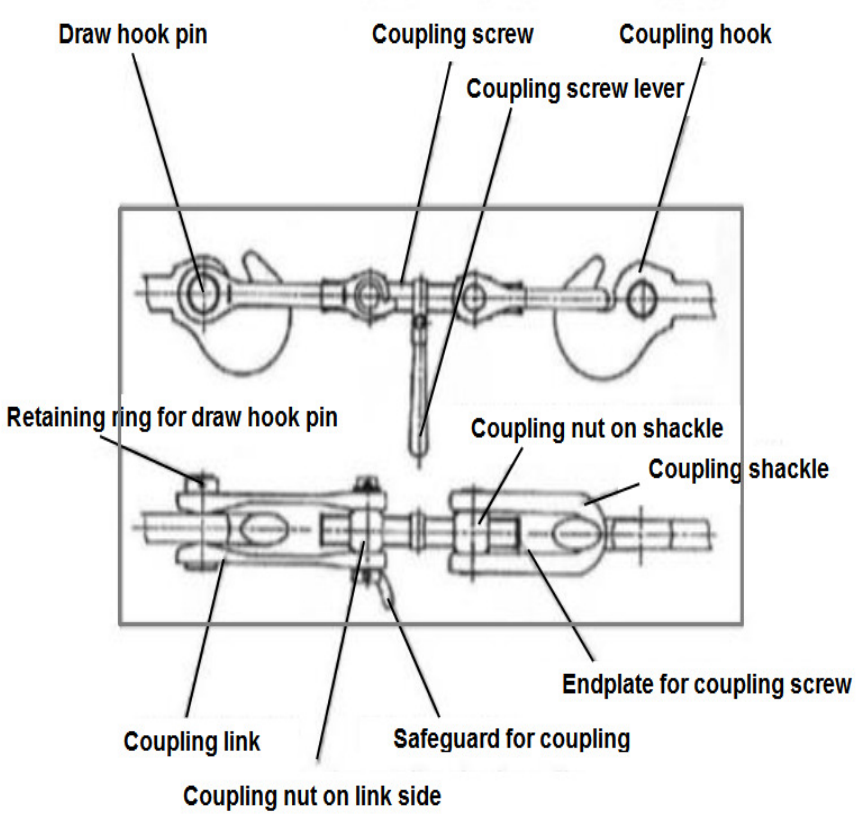
Tools and Resources:	Safety equipment (Sh2 immediate stop post and wheel chocks). Operational safety specifications of third party users must be observed.

Description of duties:	**The following protective clothing must be worn when performing the tasks detailed below:** - **Ankle-high S3 safety shoes** - **Protective gloves** - **Hardhat or bump cap** **Duties:** **1. Securing the track** Rails that need to be walked on must be made safe in advance according to the guidelines. The safeguards must ensure that any unintended traffic on the secured track is rendered impossible. Safety equipment may only be removed by the personnel who initially deployed it for safety purposes. **2. Securing the wagons** The vehicles can only be secured when they are immobile. The type and number of safety devices is to be selected such that the wagons cannot move of their own accord. **3. Uncoupling wagons** Beware of obstacles when entering track area. Always swing under the buffer using the coupling handle. **Uncoupling must be performed in the following order:** - Close the air stopcock - Separate the brake coupling and hang it in the holder to keep it clean - Unscrew the screw coupling - Unhook the screw coupling - Hang screw coupling on the safety hook **4. Coupling the wagons** When entering the track area, ensure that vehicles are completely immobile and that there are no obstructions. The tension on any compacted buffers should be released on straight track, but the buffer plates of the vehicles must remain touching when at a standstill. Always swing under the buffer using the coupling handle.

Coupling must be performed in the following order:

- Ensure the spacing between the block nuts and the coupling screw handle is the same
- Place the screw couplings on the hooks
- Screw the screw coupling closed until there is slight pressure on buffer plates, then turn it back one full rotation
- Put the coupling screw handle into its retaining element
- Connect the brake couplings
- Hang any unused screw and brake couplings into their designated holders (emergency hooks and brake coupling holders)
- Open the air stopcocks belonging to the connected brake couplings

Labelling of component parts



Safety instructions:	- If there is pressure on the brake systems of a vehicle, blow out the brake coupling before connecting it by quickly opening and closing its stopcock (approx. 2 seconds); the coupler head must be immobilized during this Process. - Air hoses may only be connected when they are depressurized - When hooking screw couplings into place, the shackle must be held so as to avoid trapping body parts **(WARNING: crushing hazard)**.

Quality control and measuring equipment:	Maintenance work will be inspected and documented in spot checks conducted by Wagon Management personnel.

Transport:	Wagons will be delivered by rail transport companies contracted by Vossloh Logistics GmbH.

Procedure in the event of defects / damage:	Inform the manager for railway operations if, for any reason, the vehicle cannot properly be made safe. Wagon Management must also be informed if any defects are discovered during maintenance work and/or coupling. Before performing a contracted haul, assurance must be obtained that any wagon defects and/or damage have been cleared by the Wagon Management Department of Vossloh Logistics GmbH.

Annex 3

STS 1001 – 10nn

Equipped with the following superstructure

- 1st Generation STS frames (steel contact surface / yellow) Abbrev. "I. Gen."
- 1st Generation STS frames (steel contact surface / yellow) Abbrev. "I. Gen." with clamping block

Loading and unloading

Approved for:	Loading and unloading using a portal crane Unloading (pulling off) to supply construction sites with new rails Loading (pulling on) to remove old rails from construction sites
Not permitted for:	Loading (pulling on) to remove old rails from construction sites (applies only to STS units equipped with clamping blocks)
Note:	No flame-cutting of any kind is permitted on STS units without the use of a fire-proof underlay (sheet metal or protective mats)

Maintenance and operation - without clamping block

1. Inspect base supports and rail support arms

The contact surfaces and chamfered edges must be degreased and cleaned of all debris.

2. Lubricating/greasing base supports and rail support arms

Before every loading procedure, apply an even layer of grease to the contact surfaces of the rail support arm and the base support using a notched spatula (triangular teeth, 3 mm edge length). Holding the spatula at a slight angle towards the pulling direction, apply the grease evenly over the entire length and width of the contact surface between the outermost locking pins.

When using the above-mentioned spatula, apply approximately 125 grams of grease to each rail support arm.

Type of grease to be used: **Fuchs PLANTOGEL 2N** or a comparable product.

STS 1001 – 10nn

Maintenance and operation – with clamping block

1. Inspecting base supports and rail support arms

Clamping block: Base supports and rail support arms on the clamping block are to be cleaned and degreased.

Frame: The contact surfaces and chamfered edges must be degreased and cleaned of all debris.

2. Lubricating/greasing base supports and rail support arms

Clamping block: Base support and rail support arms of the clamping block are not to be greased under any circumstances.

IMPORTANT:
Wagon 3 and 5 are equipped with clamping blocks. Only one clamping block can be applied per rail cluster.
When transporting rails of 120 m in length, please make sure that only one of the clamping blocks is applied.

STS units with clamping blocks are idealy loaded that all 3 tiers are used.
Only then is the clamping block able to exert its full clamping force.

Before using the clamping system, approx. 1 m in front of and behind the clamping system, the rail package has to tighten together with lashing straps in accordance with the *UIC Loading Guidelines, Volume 2, Chapter 0.6 - Loading Information, Disposable Binder for Cargo Securing.*

Frame: Before every loading procedure, apply an even layer of grease to the contact surfaces of the rail support arm and the base support using a notched spatula (triangular teeth, 3 mm edge length). Holding the spatula at a slight angle towards the pulling direction, apply the grease evenly over the entire length and width of the contact surface between the outermost locking pins.

When using the above-mentioned spatula, apply approximately 125 grams of grease to each rail support arm.

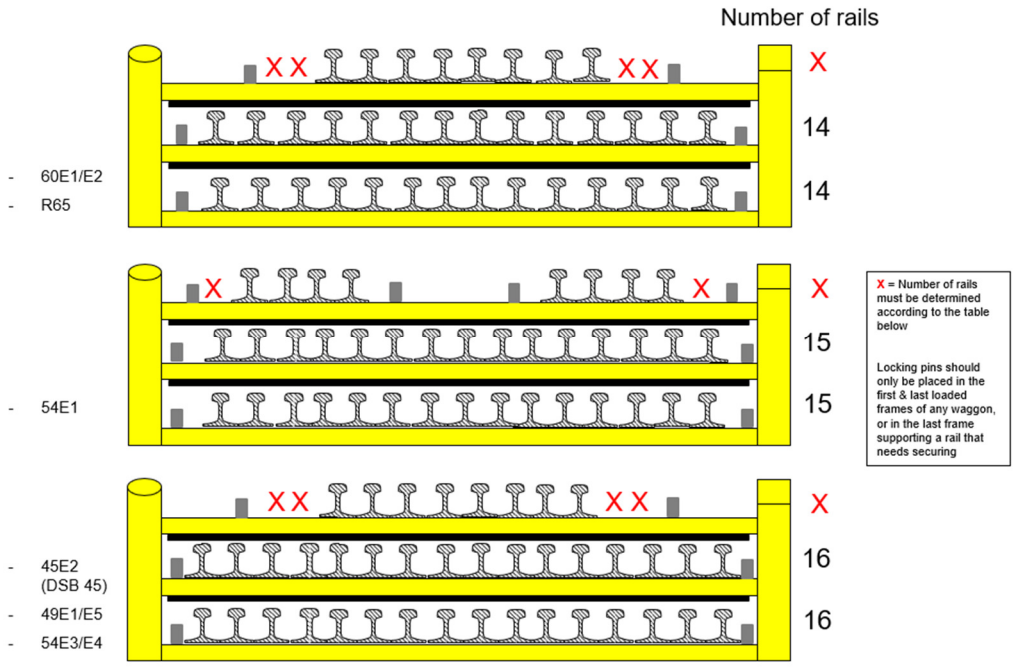
Type of grease to be used: **Fuchs PLANTOGEL 2N** or a comparable product.

IMPORTANT:
The grease must be applied to all the contact surfaces on the base supports, rail support arms and also on the heads of the rails underneath the support arms. (+15cm right/left)

STS 1001 – 10nn

Load distribution

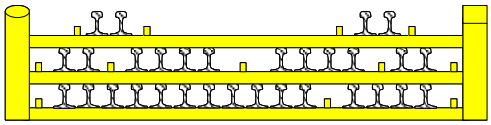
STS frames are loaded as follows:



When there are only few rails, the locking pins are accordingly placed closer together. The load must be placed centrally on any tiers not loaded to full capacity. Shorter or missing lengths of rail sometimes leave gaps that are concealed by the tier of rails above.

There should be no more than 6 of these gaps per tier and they should be distributed as evenly as possible (see diagram below). Locking pins are to be placed in these gaps to secure the load as shown above.

Example:



Number of rails making up the load

The STS system can be loaded with up to 3 tiers of rails. Maximum permissible loads are given in the table below. When hauling short rails (non-standard lengths), these numbers may be exceeded if required but each case must be checked and confirmed beforehand.

allowed number of rails / STS 1001 - 10nn		
Type	max. number per tier	max. number per tier
45E2 (DS B45)	16	48
49E1/E5	16	48
54E3/E4	16	44
54E1	15	44
60E1/E2	14	42
R65	14	38

The list of rail profiles shown is not exhaustive. Please contact the contracting party / contact person if loading any rail profiles not listed here

Annex 4

STS 2001 – 20nn

Equipped with the following superstructure

- 1st Generation STS frames (steel contact surface / yellow) Abbrev. "I. Gen."

Loading and unloading

Approved for:	Loading and unloading using a portal crane Unloading (pulling off) to supply construction sites with new rails Loading (pulling on) to remove old rails from construction sites
Not permitted for:	---
Note:	No flame-cutting of any kind is permitted on STS units without the use of a fire-proof underlay (sheet metal or protective mats)

Maintenance and operation

1. Inspecting base supports and rail support arms

The contact surfaces and chamfered edges must be degreased and cleaned of all debris.

2. Lubricating/greasing base supports and rail support arms

Before every loading procedure, apply an even layer of grease to the contact surface of the rail support arm and the base support using a notched spatula (triangular teeth, 3 mm edge length). Holding the spatula at a slight angle towards the pulling direction, apply the grease evenly over the entire length and width of the contact surface between the outermost locking pins.

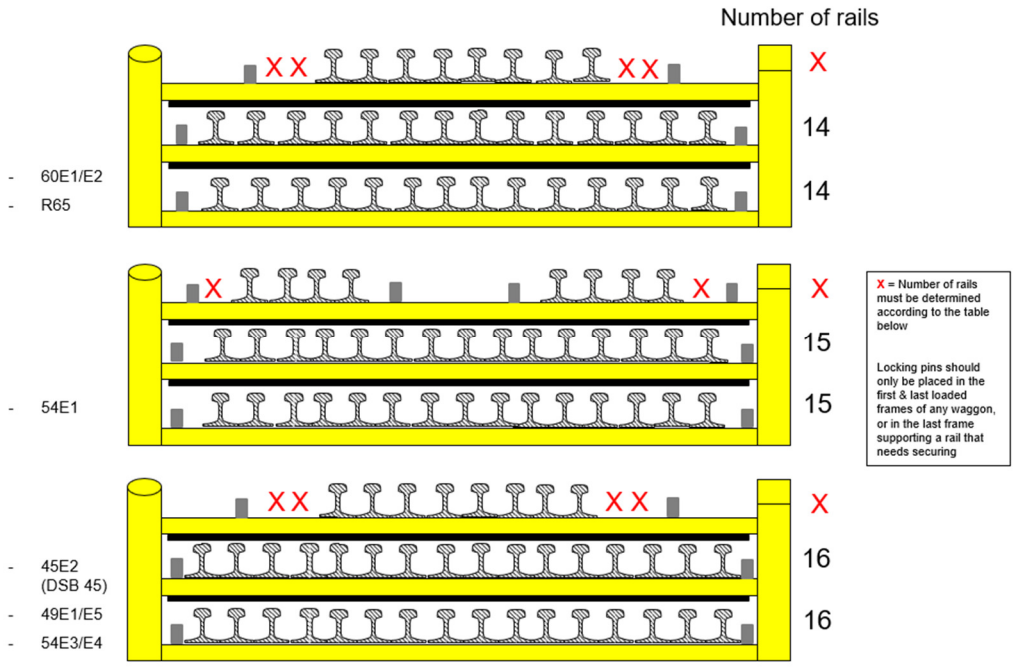
When using the above-mentioned spatula, apply approximately 125 grams of grease to each rail support arm.

Type of grease to be used: **Fuchs Plantogel 2N** or a comparable product

STS 2001 – 20nn

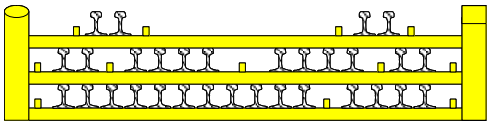
Load distribution

STS frames are loaded as follows:



When there are only few rails, the locking pins are accordingly placed closer together. The load must be placed centrally on any tiers not loaded to full capacity. Shorter or missing lengths of rail sometimes leave gaps that are concealed by the tier of rails above.
There should be no more than 6 of these gaps per tier and they should be distributed as evenly as possible (see diagram below). Locking pins are to be placed in these gaps to secure the load as shown above.

Example:



Number of rails making up the load

The STS system can be loaded with up to 3 tiers of rails. Maximum permissible loads are given in the table below. When hauling short rails (non-standard lengths), these numbers may be exceeded if required but each case must be checked and confirmed beforehand.

allowed number of rails / STS 2001 - 20nn		
Type	max. number per tier	max. number per tier
45E2 (DS B45)	16	48
49E1/E5	16	48
54E3/E4	16	40
54E1	15	40
60E1/E2	14	36
R65	14	34

The list of rail profiles shown is not exhaustive. Please contact the contracting party / contact person if loading any rail profiles not listed here

Annex 5

STS 3001 – 30nn

Equipped with the following superstructure

- 1st Generation STS frames (steel contact surface / yellow) Abbrev. "I. Gen."

Loading and unloading

Approved for:	Loading and unloading using a portal crane Unloading (pulling off) to supply construction sites with new rails Loading (pulling on) to remove old rails from construction sites
Not permitted for:	---
Note:	No flame-cutting of any kind is permitted on STS units without the use of a fire-proof underlay (sheet metal or protective mats)

Maintenance and operation

1. Inspecting base supports and rail support arms

The contact surfaces and chamfered edges must be degreased and cleaned of all debris.

2. Lubricating/greasing base supports and rail support arms

Before every loading procedure, apply an even layer of grease to the contact surface of the rail support arm and the base support using a notched spatula (triangular teeth, 3 mm edge length). Holding the spatula at a slight angle towards the pulling direction, apply the grease evenly over the entire length and width of the contact surface between the outermost locking pins.

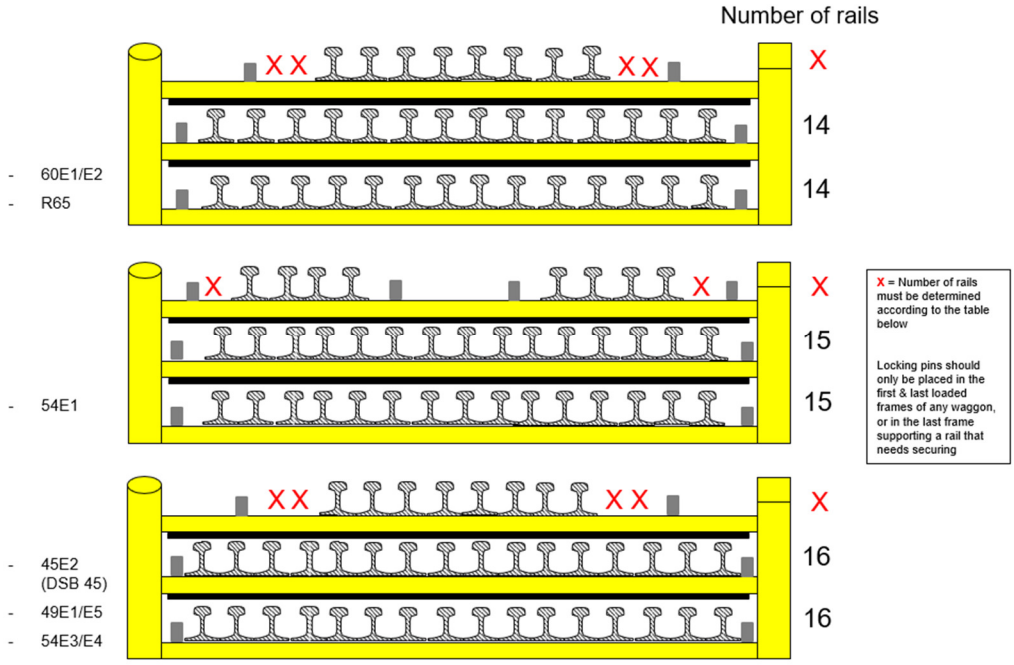
When using the above-mentioned spatula, apply approximately 125 grams of grease to each rail support arm.

Type of grease to be used: **Fuchs Plantogel 2N** or a comparable product.

STS 3001 – 30n

Load distribution

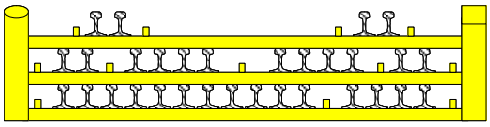
STS frames are loaded as follows:



When there are only few rails, the locking pins are accordingly placed closer together. The load must be placed centrally on any tiers not loaded to full capacity. Shorter or missing lengths of rail sometimes leave gaps that are concealed by the tier of rails above.

There should be no more than 6 of these gaps per tier and they should be distributed as evenly as possible (see diagram below). Locking pins are to be placed in these gaps to secure the load as shown above.

Example:



Number of rails making up the load

The STS system can be loaded with up to 3 tiers of rails. Maximum permissible loads are given in the table below. When hauling short rails (non-standard lengths), these numbers may be exceeded if required but each case must be checked and confirmed beforehand.

allowed number of rails / STS 3001 - 30nn		
Type	max. number per tier	max. number per tier
45E2 (DS B45)	16	48
49E1/E5	16	44
54E3/E4	16	40
54E1	15	40
60E1/E2	14	36
R65	14	34

The list of rail profiles shown is not exhaustive. Please contact the contracting party / contact person if loading any rail profiles not listed here

Annex 6

STS 4001 – 40nn

Loading and unloading

Approved for: Unloading (pulling off) to supply construction sites with new rails
Loading and unloading using a portal crane

Note:

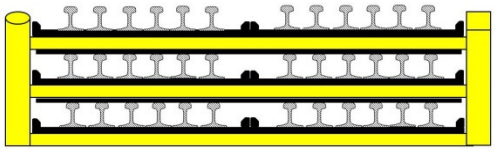
- Each tier is idealy loaded with the maximum number of rails permitted
- The rails must be distributed evenly among the compartments on every tier and must be loaded such that the numbers of rails in the left and right compartments differ by no more than one rail.
  (See examples below)
- Only one rail type per tier.

Not permitted for: Loading (pulling on) to remove old rails from construction sites

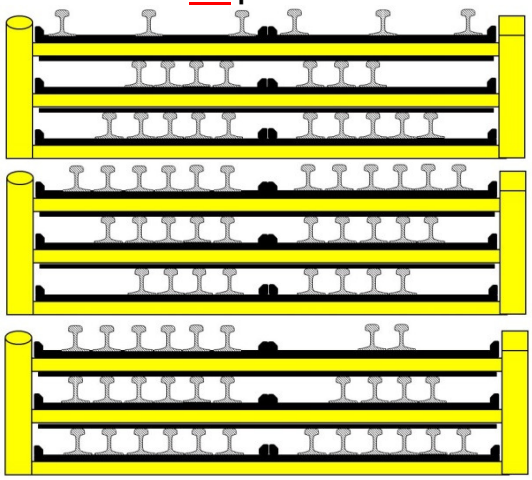
Note: No flame-cutting of any kind is permitted on STS units without the use of a fire-proof underlay (sheet metal or protective mats).

Examples:

permitted:



not permitted:

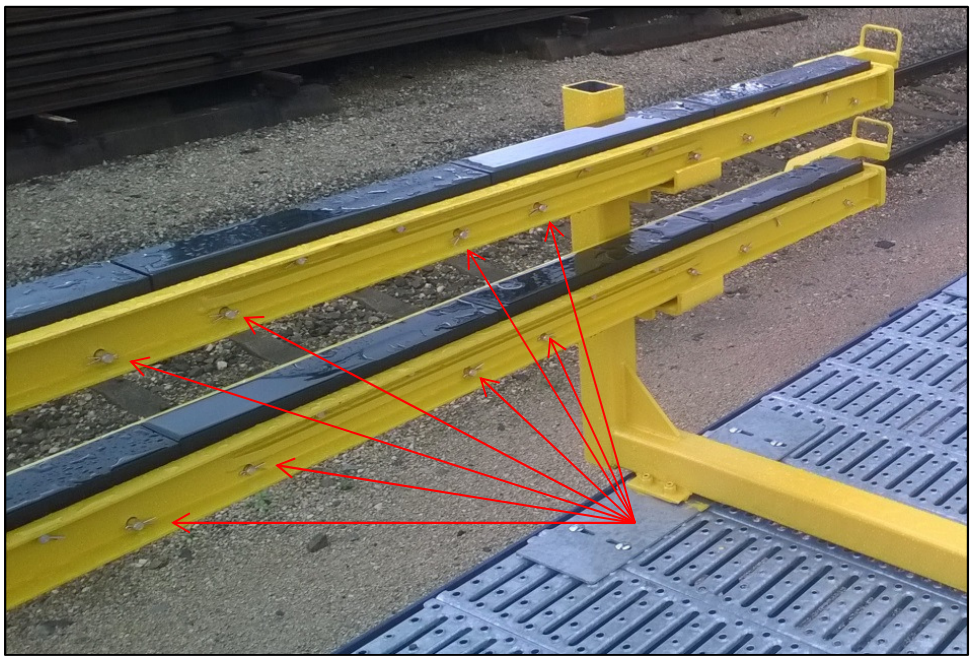


STS 4001 – 40nn

Maintenance and operation

1. Inspecting base supports and rail support arms

A check must be done of the bolts on the base supports and rail support arms fitted with synthetic inlays. Tighten any loose bolts and secure them with a split pin. Replace any defective bolts before departure. If a synthetic inlay is damaged or its condition prevents the rails from being hauled safely, the inlay must be replaced.



2. Lubricating/greasing base supports and rail support arms

The mineral oil "*TECTROL TERRA chainsaw oil*" or an equivalent mineral oil is to be used as lubrication for the base supports and rail support arms as well as the rail heads.

The use of grease is also permitted. Type of grease to be used: **Fuchs Plantogel 2N** or a comparable product.

IMPORTANT: The adhesive oil or grease must be applied to all contact surfaces on the base supports and rail support arms and also on the heads of the rails underneath the support arms. (+15cm right/left)

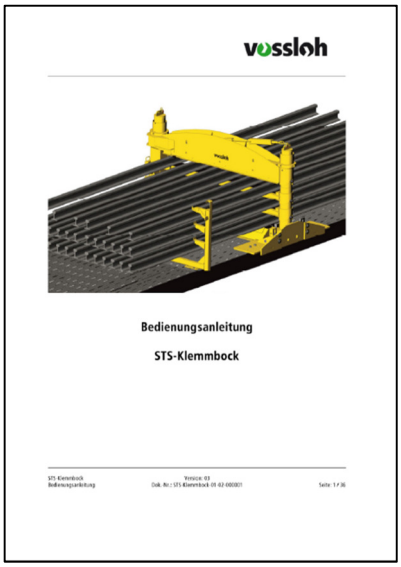
All the base supports and rail support arms on the wagon fitted with the clamping blocks or "clamping wagon" are not to be oiled, greased or lubricated with any other form of lubrication

STS 4001 – 40nn

STS clamping block

Clamping the rails

All the STS 4000 Series wagons are equipped with "clamping blocks". More information on their operation, use and maintenance can be found in the latest version of the **Operating Manual**.



Number of rails making up the load

The STS system can be loaded with up to 3 tiers of rails. Maximum permissible loads are given in the table below. When hauling short rails (non-standard lengths), these numbers may be exceeded if required but each case must be checked and confirmed beforehand.

allowed number of rails / STS 4001 - 40nn		
Type	max. number per tier	max. number per tier
45E2 (DS B45)	16	48
49E1/E5	16	44
54E3/E4	16	40
54E1	14	40
60E1/E2	14	36
R65	14	34

The list of rail profiles shown is not exhaustive. Please contact the contracting party / contact person if loading any rail profiles not listed here

Annex 7

STS 5001 – 50nn

Equipped with the following superstructure

- 1st Generation STS frames (steel contact surface / yellow) Abbrev. "I. Gen."

Loading and unloading

Approved for:	Loading and unloading using a portal crane Unloading (pulling off) to supply construction sites with new rails Loading (pulling on) to remove old rails from construction sites
Not permitted for:	---
Note:	No flame-cutting of any kind is permitted on STS units without the use of a fire-proof underlay (sheet metal or protective mats)

Maintenance and operation

1. Inspecting base supports and rail support arms

The contact surfaces and chamfered edges must be degreased and cleaned of all debris.

2. Lubricating/greasing base supports and rail support arms

Before every loading procedure, apply an even layer of grease to the contact surface of the rail support arm and the base support using a notched spatula (triangular teeth, 3 mm edge length). Holding the spatula at a slight angle towards the pulling direction, apply the grease evenly over the entire length and width of the contact surface between the outermost locking pins.

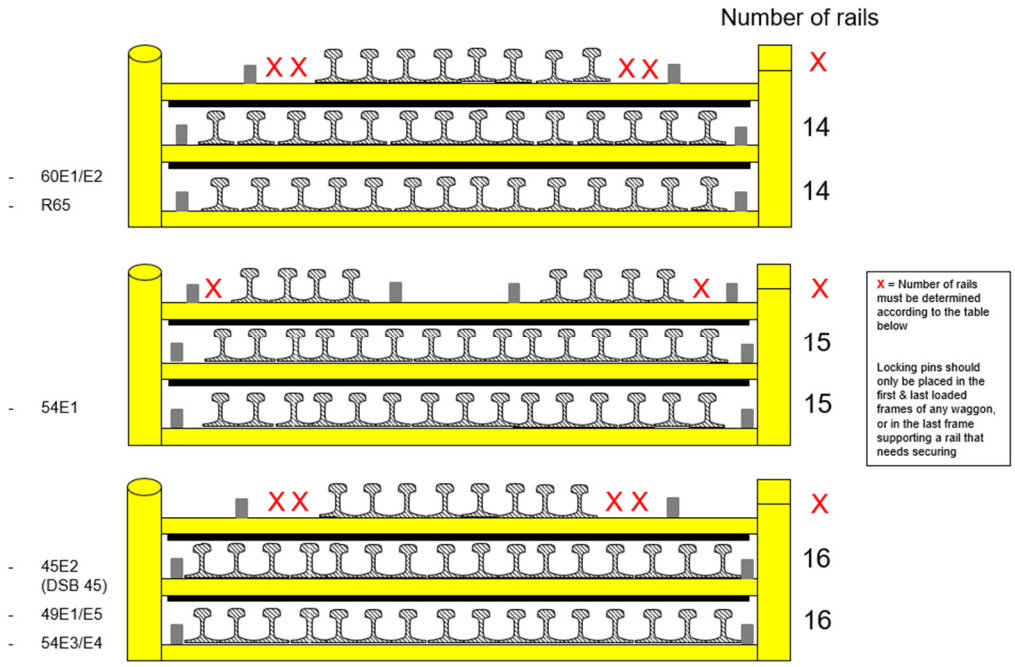
When using the above-mentioned spatula, apply approximately 125 grams of grease to each rail support arm.

Type of grease to be used: **Fuchs Plantogel 2N** or a comparable product

STS 5001 – 50nn

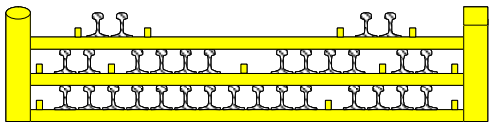
Load distribution

STS frames are loaded as follows:



When there are only few rails, the locking pins are accordingly placed closer together. The load must be placed centrally on any tiers not loaded to full capacity. Shorter or missing lengths of rail sometimes leave gaps that are concealed by the tier of rails above.
There should be no more than 6 of these gaps per tier and they should be distributed as evenly as possible (see diagram below). Locking pins are to be placed in these gaps to secure the load as shown above.

Example:



Number of rails making up the load

The STS system can be loaded with up to 3 tiers of rails. Maximum permissible loads are given in the table below. When hauling short rails (non-standard lengths), these numbers may be exceeded if required but each case must be checked and confirmed beforehand.

allowed number of rails / STS 5001 - 50nn		
Type	max. number per tier	max. number per tier
45E2 (DS B45)	16	48
49E1/E5	16	48
54E3/E4	16	44
54E1	15	44
60E1/E2	14	40
R65	14	36

The list of rail profiles shown is not exhaustive. Please contact the contracting party / contact person if loading any rail profiles not listed here