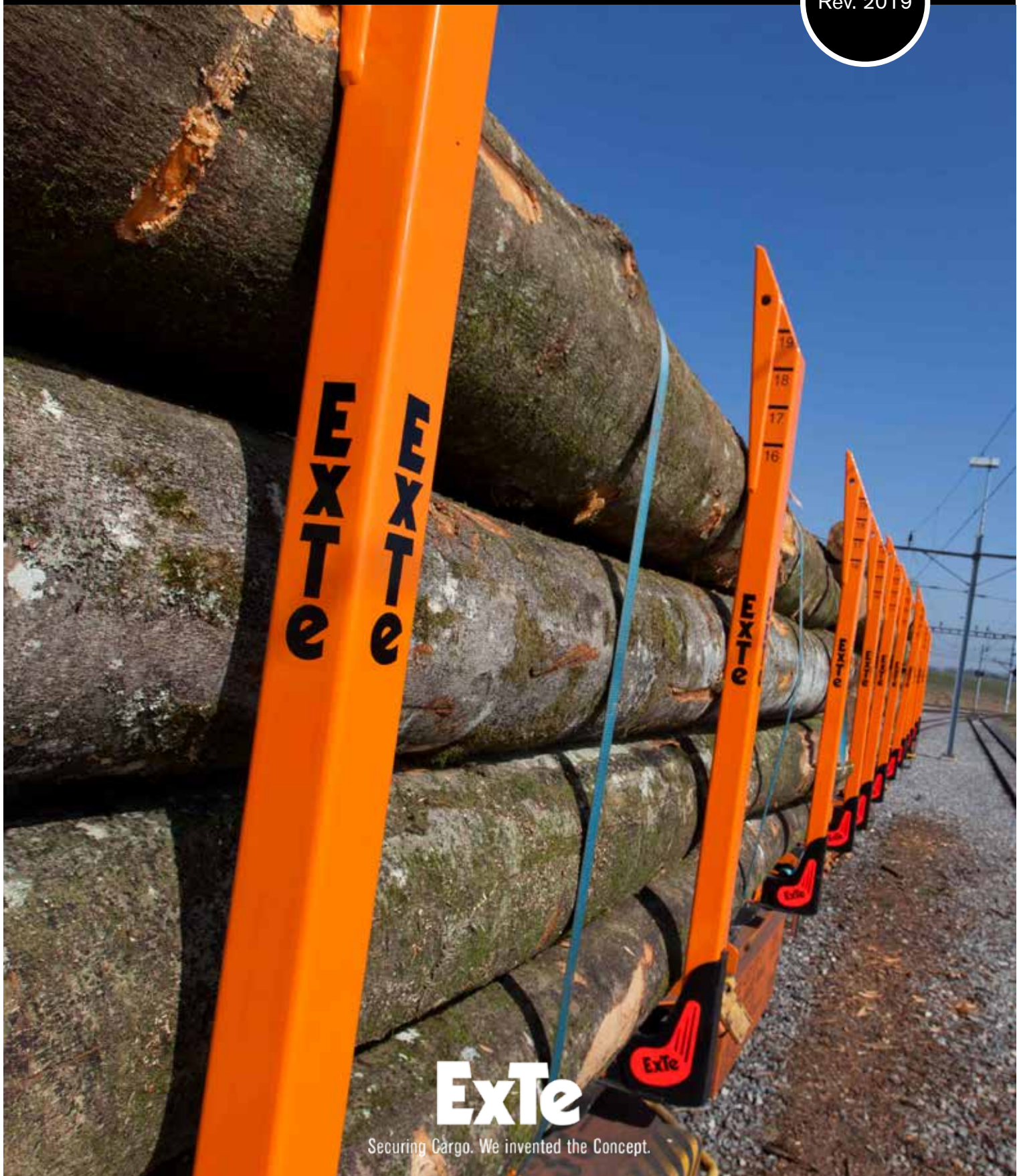




ExTe Rail

PRODUCTS & REFERENCES

Rev. 2019



ExTe

Securing Cargo. We invented the Concept.

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ExTe Introduction

For more than a hundred years, we have successfully developed and delivered products for safe cargo securing. We select systematic design and production solutions that produce maximum safety in the function.

ExTe of today has 70 employees and a turnover of approximately 16 M Euro. Of the turnover, roughly 80 per cent is derived from the highway sector and around 20 per cent from the rail sector.

If you are active in the sector of rail transportation of forest products, we believe you will find this brochure informative and interesting. Our aim is to secure cargo as safe as possible at lowest possible LCC.

In the first half of this brochure, you'll find a listing of our main rail customers so far, and in the latter half a little bit more detailed descriptions of our most common rail products.

As a hint to better understand the following pages, SR 12 stands for a high strength steel timber bunk that is guaranteed to hold a static and dynamic load of 12 ton per bunk. One can then only guess what SR 8 and SR 6 stands for. The term "timber bunk" means a bolster with two stanchions (hence, it takes two timber bunks to carry one pile/bundle of logs).

If you have any questions, please do not hesitate to contact us.

Owe Ljunghammer
MANAGER, RAIL BUSINESS

ExTe/Extendo
owe.ljunghammer@extendo.se
+ 46 70 5201707

Or contact:
ExTe Sales

sales@exte.se
+ 46 651 175 01

ExTe SR12

Rail Freight Company: GC (Green Cargo AB, former Swedish State Railway, SJ)



Facts:

Wagon type: Lnps. 22.5 ton axle load.

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 1988-1991

Number of wagons: 1,020 two-axle wagons

Number of timber bunks: 5,400

Number of support bolsters: NA

Number of end walls: NA

The SR12 timber bunk was designed and developed for this operators need in the latter half of the 1980-ties. After some 28 years with around 300 load trips per year in an operational environment considered being one of the roughest in Europe (both regarding terminal handling and climate), the original equipment is still going strong.

ExTe SR12

Rail Freight Company: GC (Green Cargo AB, former Swedish State Railway, SJ)



Facts:

Wagon type: Lnps. 22.5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2005 and 2016

Number of wagons: 165 two axle wagons

Number of timber bunks: 990

Number of support bolsters: 330

Number of end walls: 330

ExTe SR12

Rail Freight Company: GC (Green Cargo AB, former Swedish State Railway, SJ)



Facts:

Wagon type: Laaps. 25 ton axle load

Approval authorities: Swedish track and safety authorities

Year of delivery: 2003-2004

Number of wagons: 186 twin platform wagons with two axles per platform

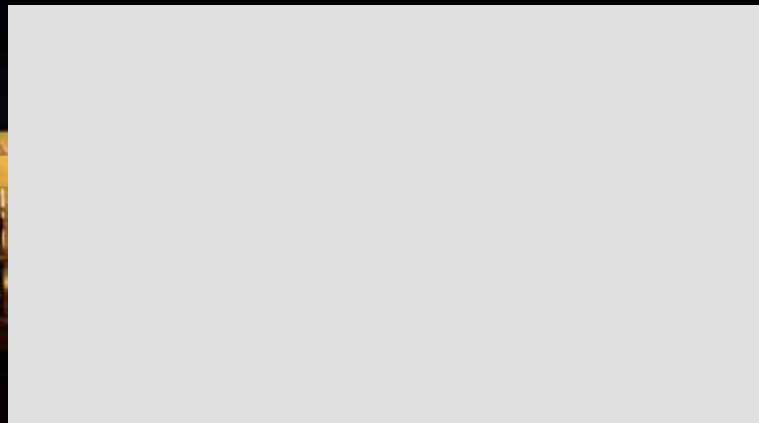
Number of timber bunks: 2,232

Number of support bolsters: 744

Number of end walls: NA

ExTe SR12

Rail Freight Company: GC (Green Cargo AB, former Swedish State Railway, SJ)



Facts:

Wagon type: Sgnss 22.5 ton axle load

Approval authorities: Swedish track and safety authorities

Year of delivery: 2019

Number of wagons: 35

Number of timber bunks: 315

Number of support bolsters: 105

Number of end walls: 70

ExTe SR12

Rail Freight Company: TÅGAB (Tågåkeriet i Bergslagen AB)



Facts:

Wagon type: Sgnss / Sns-x and Rps 20 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2005-2015

Number of wagons: 81 bogie wagons

Number of timber bunks: 700

Number of support bolsters: 310

Number of grapple protections: 100

Number of end walls: 70

ExTe SR12

Rail Freight Company: TÅGAB (Tågäkeriet i Bergslagen AB)



Facts:

Wagon type: Kbps-x, 2-axle with 22.5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2015

Number of wagons: 28

Number of timber bunks: 112

Number of grapple protections: 56

ExTe SR12

Rail Shipping Company: Svea Skog (Swedish State Forestry)



Facts:

Wagon type: Sgnss 22.5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2010

Number of wagons: 18 bogie wagons

Number of timber bunks: 180

Number of support bolsters: 126

Number of end walls: NA

ExTe SR12

Rail Freight Company: Former Peterson Rail AB



Facts:

Wagon type: Sgnss. 22.5 ton axle load and Rps 20 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2005 - 2010

Number of wagons: 60 bogie wagons

Number of timber bunks: 548

Number of support bolsters: 368

Number of end walls: 94

ExTe SR12

Rail Freight Company: TX (TX Logistik AB/AG)



Facts:

Wagon type: Sgnss. 22.5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2007-2009

Number of wagons: 75 bogie wagons

Number of timber bunks: 690

Number of support bolsters: 348

Number of end walls: 26

ExTe SR12

Rail Freight Company: Hector (Hector Rail AB)



Facts:

Wagon type: Sgnss. 22.5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2006-2012

Number of wagons: 175 bogie wagons

Number of timber bunks: 1,239

Number of support bolsters: 648

Number of end walls: 230

ExTe SR12

Rail Freight Company: Former CargoLink AS



Facts:

Wagon type: Sgnss. 22.5 ton axle load

Approval authorities: Norwegian track and safety authorities, Swedish track and safety authorities.

Year of delivery: 2009 - 2010

Number of wagons: 41 bogie wagons

Number of timber bunks: 282

Number of support bolsters: 159

Number of end walls: 82

ExTe SR12

Rail Leasing Company: Three T/Railcare (and former Inlandsgods)



Facts:

Wagon type: Srrs 22.5 ton axle load, Sps/Rs. 20 ton axle load and Rps 20 ton axle load

Approval authorities: Swedish track and safety authorities

Year of delivery: 2007 - 2008

Number of wagons: 77 bogie wagons

Number of timber bunks: 382

Number of support bolsters: 191

Number of end walls: 40

ExTe SR12

Rail Freight Company: Inlandståget AB/IBAB



Facts:

Wagon type: Laaps 22,5 ton axle load

Approval authorities: Swedish track and safety authorities

Year of delivery: 2012

Number of wagons: 10 twin platform wagons with two axles per platform

Number of timber bunks: 80

Number of support bolsters: 40

Number of end walls: NA

ExTe
SR12

Rail Freight Company: Kiwi Rail



Facts:

Wagon type: FE/FEG 14 - 16 ton axle load

Approval: Kiwi Rail, New Zealand

Year of delivery: 2011 - 2019

Number of wagons: 520 bogie wagons

Number of timber bunks: 2,430

Number of support bolsters: NA

Number of end walls: NA

ExTe SR12

Rail Leasing Company: VTG (for Trätåg AB/Hector Rail AB)



Facts:

Wagon type: Sgnss 22,5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2012

Number of wagons: 200 bogie wagons

Number of timber bunks: 1800

Number of support bolsters: 600

Number of end walls: 400

ExTe SR12

Rail Leasing Company: Wascosa AG (for CFL AB)



Facts:

Wagon type: Sgnss 22,5 ton axle load

Approval authorities: Swedish track and safety authorities, Norwegian track and safety authorities

Year of delivery: 2016

Number of wagons: 28 bogie wagons

Number of timber bunks: 252

Number of support bolsters: 84

Number of end walls: 56

ExTe SR8

Rail Leasing Company: TWA (through TVP)



Facts:

Wagon type: Snps 22,5 ton axle load

Approval authorities: TSI

Year of delivery: 2015 - 2019

Number of wagons: 200 bogie wagons

Number of timber bunks: 4,300

Number of Winch System 602: 3,570

ExTe SR8

Customer: Container d.o.o., Slovenia (used for 20' and 30' timber cassettes)



Facts:

Wagon type: NA
Approval authorities: TSI
Year of delivery: 2017-2019
Number of 20' cassettes: 402
Number of timber bunks: 1,608
Number of Winch System 602: 1,206



ExTe SR8

Customer: MHS, Poland (used for 20' timber cassettes)



Facts:

Wagon type: NA

Approval authorities: TSI

Year of delivery: 2014 - 2015

Number of 20' cassettes: 21

Number of timber bunks: 84

Number of Winch System 602: 60

ExTe SR6

Rail Leasing Company: TWA



Facts:

Wagon type: Laaps and Snps. 20 and 22.5 ton axle load

Approval authorities: German track and safety authorities, DB and EBA.

Year of delivery: 2002-2018

Number of wagons: 800 platform wagons

Number of timber bunks: 6,530

Number of Winch System 602: 1,120

ExTe SR6

Rail Freight Company: Vida Timber AB



Facts:

Wagon type: Kbps. 20 ton axle load

Approval authorities: Swedish track and safety authorities

Year of delivery: 2006 - 2010

Number of wagons: 60 two axle wagons

Number of timber bunks: 360

Number of support bolsters: NA

Number of end walls: NA

ExTe SR Steel (OVAKO)

Rail Freight Company: GC (Green Cargo AB, former Swedish State Railway, SJ)



Facts:

Wagon type: Smmnps. 22.5 ton axle load
Approval bodies: Swedish track and safety authorities
Year of delivery: 2017
Number of wagons: 60 bogie wagons
Number of bunks: 240

ExTe SR Steel (SSAB)

Rail Freight Company: GC (Green Cargo AB, former Swedish State Railway, SJ)



Facts:

Wagon type: Smmnps. 25 ton axle load

Approval bodies: Swedish track and safety authorities

Year of delivery: 2019

Number of wagons: 41

Number of bunks: 164

ExTe

Product Descriptions

In the following, ExTe's most common rail products are rudimentary described. It is important to note that the weights indicated can vary pending on the desired loading gauge (height and width) and on what type of fastening system that will be used.

All of ExTe's timber bunks, stakes and support bolsters are manufactured using high strength steel with a tensile between 700 and 1,400.

ExTe has three base models of rail timber bunks with different characteristics. Height, width and fastening system can vary pending on customer request and wagon type in question.

In addition to the SR Series of bunks, ExTe also offers different systems such as the ExTe Universal, Multi, Cassettes, 602 Winch System, etc.



ExTe SR12 Timber Bunk



The SR12 timber bunk is very common in Scandinavia. Since 1988, tens of thousands bunks of this type have been delivered and attached to a great variety of different wagon types. Pending on customer, loading area varies from 5.3 m² to 9.5 m².

Facts:

ExTe SR12 timber bunk can carry a load of 12 ton each and can be attached to most flat wagons / container wagons. This even if the wagon type only has two outer frame sills (like most Sgnss designs). The weight is approximately 200-280 kg per bunk pending loading gauge and fastening system.

ExTe SR8 Timber Bunk



The photo above is showing SR8 bunks with European G2 loading profile. This design is also available in G1, Iberian and UK loading gauges. Photo: Courtesy of SETG.

Facts:

ExTe SR8 timber bunk can carry a load of 8 ton each and can be attached to most flat wagons / container wagons. This even if the wagon type only has two outer frame-sills (like most Sgnss designs). The weight is from 160 kg pending loading gauge and fastening system.

The SR8 timber bunk (and the SR6 timber bunk described on the following page), is well suited for the more restrictive continental European loading gauge. The bolster design of the SR8 bunk also makes the bunk suitable for only two sill wagons and for the transport of sawed lumber packages, pressed boards, etc besides timber.

ExTe SR6 Timber Bunk



Since the mid 1990-ties, close to 7,000 timber bunks of the SR6 design have been delivered to various European customers.

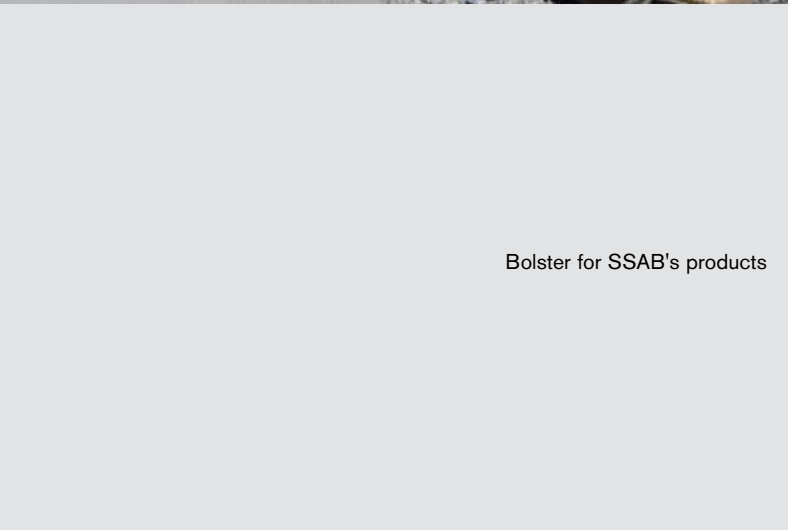
Facts:

ExTe SR6 Timber Bunk can carry a load of 6 ton each and can be attached most types of flat wagons / container wagons. The weight of this bunk is from 130 kg pending upon desired loading gauge, fastening system, etc.

ExTe ExTe SR Steel



Bolster for OVAKO's products



Bolster for SSAB's products



Facts:

The SR Steel family is designed to carry cold or hot steel slabs or rods with a temperature of up to 700° C . One single bolster can carry a load of up to 40 ton. Width of bolsters and height of stanchions can vary pending customer needs. Weight per bolster is between 210 kg to 370 kg depending on design.

ExTe Universal



1

The bunks are transported with the stanchions down on top of revenue cargo in one direction. In the "timber direction", the pair of bunks are placed on the ground and stanchions raised, loaded with timber, strapped with one belt per bunk and finally lifted onto a freight vehicle. The spacing between two bunks is freely adjusted on the ground pending log lengths. The concept is also suitable for the transport of steel or plastic pipes, etc. The empty bunks can be handled either by fork lifts or forest cranes.



3



2



4

Facts:

ExTe Universal is designed for the use in covered or open lorries or rail wagons. This 8 ton design is very suitable in freight corridors where i.e. lumber (sawed boards), pressed boards and palletized cargo is transported in one direction, and timber/pulp wood in the opposite direction. The stanchions are of fold-down type.

The weight of this bunk is from 180 - 220 kg pending upon desired height and width. A pair of bunks can handle a log pile weighting 16 ton. The handling concept is as smart as it is simple.

ExTe Multi



The ExTended container spigots (the equipment pictured above) lift containers above timber bunk bolsters and support bolsters.

Facts:

ExTe Multi is a flexible solution for the efficient transport of containers, timber and sawed lumber. ExTe has developed this system (based on either the SR12 or SR8 timber bunk designs) in order to make the transport of timber, containers and lumber possible on the same wagon without the need for any alterations to the wagon.

Due to loading gauge reasons, this design is especially suitable to meet most common rail transport needs within the Scandinavian forest industry. With this equipment, a wagon can in a very flexible manner alter between the transport of timber, containers and lumber. Handling of containers can be done either by forklifts or reach-stackers.

ExTe SR2 and SR3 Stanchions



ExTe SR2 in standard UIC sockets. More than 1,000 stanchions have been delivered since 2017.

ExTe's Maxi Socket.
More than 50,000 Socket have been delivered since 1996.
Both SR2 and SR3 stanchions are suitable for this socket.



Facts:

ExTe SR2 stanchion is designed in strength to fit the standard UIC sockets on common European flat wagons. The weight of this stanchion is 25 kg.

ExTe SR3 stanchion is designed in strength to better match ExTe's strong Maxi Socket. The weight of this stanchion is 27 kg.

The Maxi Socket provides for a secure and strong inter-fit between ExTe's UIC Stanchions and the wagon. The weight of the Maxi Socket is 11 kg.

ExTe Fastening Systems



Bolted fastening with or without rubber pucks. At this time, around 10,000 Timber Bunks with this fastening system have been delivered.

Over-yoke fastening with bolts with or without rubber pucks. Over 6,000 Timber Bunks have been delivered with this fastening system up till today.



Clamp fastening is a system used on around 6,000 Timber Bunks so far. This fastening type is also commonly used on ExTe's highway products (exceeding 250,000 Timber Bunks world wide).

ExTe Fastening Systems



Frame welded fastening is the means of attachment for close to 7,000 SR6 Timber Bunks up to date.



ExTe's wagon fastening plate manufactured from HSS can be bolted or welded onto the wagon frame. Timber Bunk fastenings of most types can then be attached to this type of fastening plate. Over 5,000 of this fastening type have been delivered till date.



Facts:

The SR12, SR8 and SR6 Timber Bunk designs can be used on most, if not all, types of flat wagons and container wagons. The attachments of the timber bunks onto wagons are done by the use of either clamp fastenings, bolt fastenings or yokes with bolts. Sometimes attached to a fastening plates bolted or welded to the wagon sills.

ExTe

Support Bolsters (for wagon protection)



Over 4,000 pcs of this heavy duty support bolster have been delivered since 2005. The top plate of the bolster is manufactured from the extremely durable Hardox steel quality.

Facts:

ExTe's Support Bolsters protect wagon frames from the forces of unloading machines / grapples and also make faster unloading possible.

In tests, ExTe's heavy-duty bolster withstood vertical loads of 27 ton in the middle (when mounted on a Sgnss alike frame structure with only two outer frame sills). The weight of the Support Bolster is between 120 to 190 kg pending fastening system and width. The Support Bolster is attached to the wagon by clamp fastenings or bolt fastenings.

ExTe End Walls



The piping design.



The flat wall design.

Facts:

ExTe also produces end walls and end wall sockets for rail applications. One design is using piping for the grid and one design is of flat wall type. The end walls and sockets are entirely manufactured in high strength steel.

ExTe Winch System 602

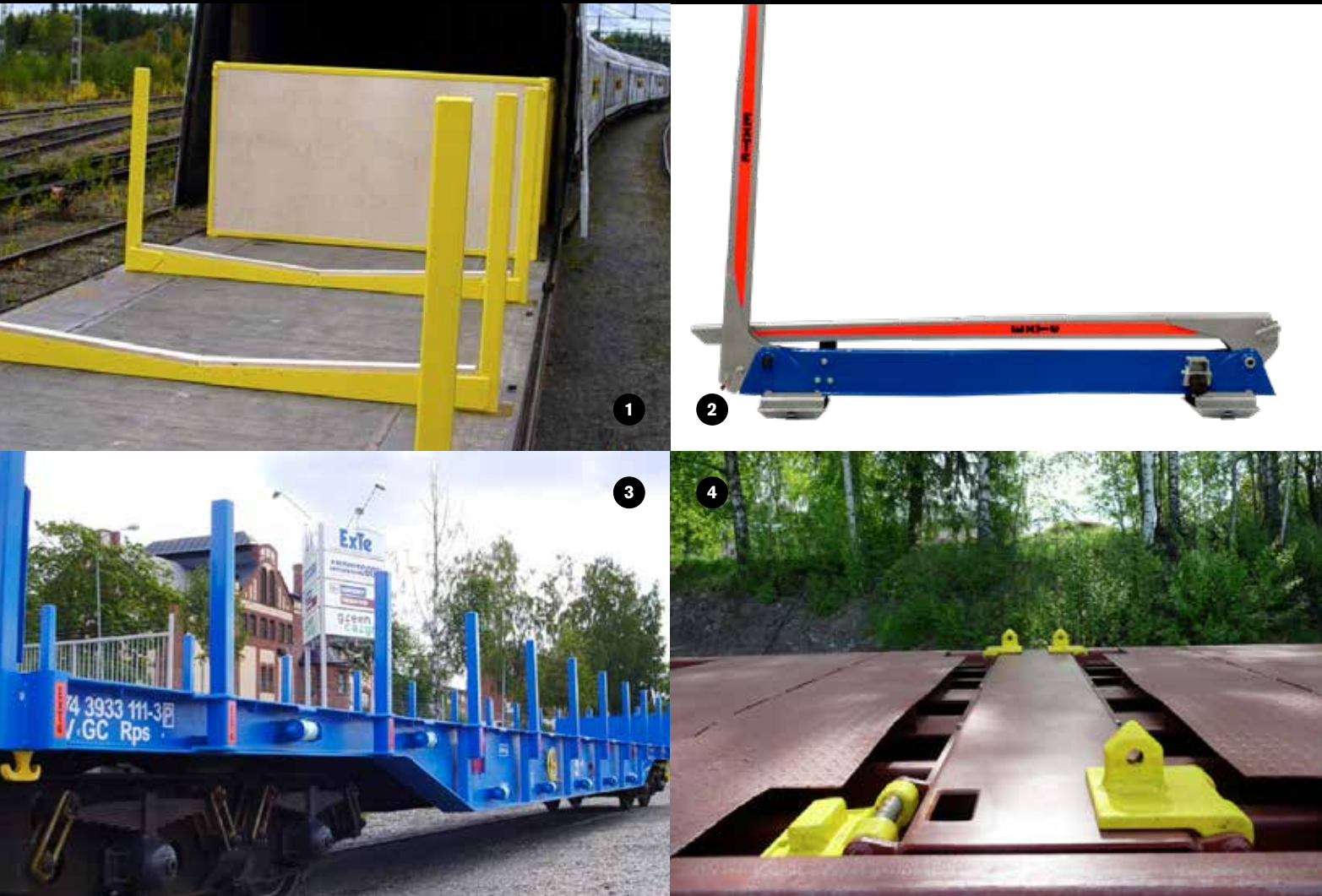


This Winch System is very popular among European rail operators.

Facts:

The 602 Winch System is commonly used by European rail operators. The system includes a winch, a ten meter 6 ton lashing belt with triangle and a hook. The winch and the hook can either be bolted or welded onto the wagon, and the weight is in total around 9 kg. Throughout the past twenty years, more than 32,000 systems of this type have been delivered to the rail industry.

ExTe Special Designs



Facts:

Beside our mainstream load securing products, ExTe also offers related products based on specific customer requests. Example of such products are bunks for steel pipes and rods (picture 1). Shown in picture 2 is a bunk with fall-down stanchions. Picture 3 shows example of ExTe load securing equipment for the needs of track authorities / track maintenance companies and picture 4 shows ExTe's container spigot beams for flat wagons modified to container wagons.

As the role, these products are manufactured using high strength steel. For ExTe, the customer is always king, and we are listening. If a customer's desire is technically and economically feasible, ExTe will design, test and manufacture accordingly.

ExTe Testing



FEM-analysis, dynamic and static laboratory tests, vibration chamber tests and operational field tests is a must before a broader market introduction of an ExTe product.

The best test laboratory is sometimes the reality. ExTe continuously collects information and experience from mishaps. At this at speed derailment (due to track failure) of a loaded (ExTe) timber train, remarkably few of ExTe's components had to be replaced. The fastening type was in this case of clamp type. The photo to the right probably shows the Worlds largest rake, raking deep for 200 meters without a broken stanchion.



Facts:

Normally, a new design is borne after customer dialog and his approval of final drawings. After that FEM-analyzes are carried out, new products are always prototyped and tested in ExTe's laboratory in order to measure structural behavior and braking points. Finally, the products are tested in field conditions as test units. This always takes place ahead of any market introduction and series deliveries. Normally, ExTe's rail products are approved by rail authorities as integrated parts of a wagon approval (new wagon designs or after major modifications).

All of ExTe's stanchion and bunk designs fulfill TSI requirements regarding high strength stanchions and side mounted stanchions.

ExTe Durability in real life.



Facts:

ExTe Rail's products are designed to withstand rough operational conditions and over a long period of time offer low LCC. However, they are not designed to win a beauty contest after 20 some years of tough operation. The aim is instead to design products that can withstand overforces without causing stopping faults.

ExTe Customers

- DB / Railion / DB Schenker, SJ / Green Cargo, NSB / CargoNet
- Nordwaggon / TWA, Container d.o.o., INVEHO, DDSV
- KiwiRail, EWS, Hector Rail, Tågab, TXL, Peterson Rail, RailCare, Rushrail, Grenland Rail, Trätåg, CFL Cargo
- CargoLink, Vida, OBAS, Sveaskog, Midwaggon, Banverket/Trafikverket, Inlandståget/IBAB, Buffers, Nordisk Tog, Strukton Rail
- Greenbriar, Gniewczyna, Tatravagonka, Ovako, Swemaint, Astra Rail
- AAE/VTG, ERR, OnRail, NetRail, ExTe Vertriebs GmbH, Medway
- Wascosa, Feve, GFR, Nacco, MHS, Rail-X, Bane NOR

ExTe Certificates



**More ExTe.
Both digitally and in print.**



ExTe has the widest product line in the market to meet every need. Product development that never compromises on safety is your best guarantee.

For more information about ExTe, you are invited to visit us at www.exte.se

ExTe

Securing cargo. We invented the Concept.

ExTe Fabriks AB, Box 18, SE-827 28 Färila Sweden. Tel: +46 (0)651 175 00. Fax: +46 (0)651 175 03. E-mail: info@exte.se www.exte.se