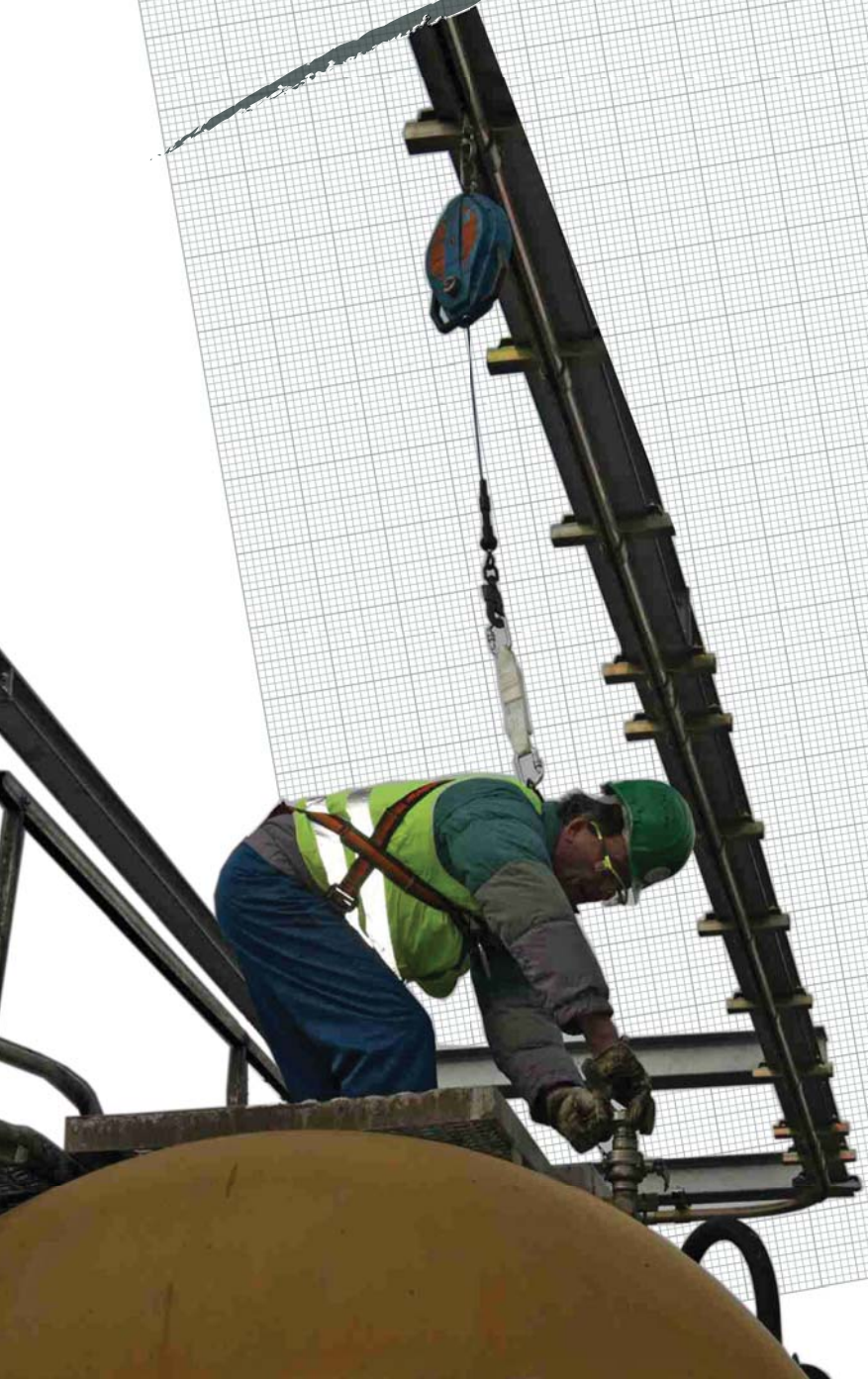
C4 Fall Protection

Eliminate Bounce Effect and Secondary Falls

NIKO ...Quality in Motion



- Modular
- Ergonomic
- Smooth Running
- Versatile

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Contents

1.General Instructions

Manufacturer

Helm Hellas S.A
PO Box 209
20100 Korinthos
Greece
Tel: 0030-27410-85803
Fax: 0030-27410-25368
e-mail: info@niko.eu.com

Distribution U.S.A.
NIKO TRACK
300 Highpoint Avenue
Portsmouth
RI 02871
Tel: 001-401-6837525
Fax: 001-401-6836450
e-mail: sales@nikotrack.com

Distribution U.K.
NIKO Limited
Unit 12, Southfield Road
Kineton Road Ind.Estate
CV47 0FB Southam
Warwickshire
Tel: 0044-19268-13111
Fax: 0044-19268-15599
e-mail: sales@niko-ltd.co.uk

Distribution Germany
NIKO TECHNIK GmbH
Friedrichstrasse 269A
42551 Velbert
Tel: 0049-2051-604736
Fax: 0049-2051-604738
e-mail: office.de@niko.eu.com

Distribution Austria
NIKO VertriebsgmbH
Hainsfeldstraße 3
A-2564 Weissenbach
Tel: 0043-2674-81005
Fax: 0043-2674-81006
e-mail: office.at@niko.eu.com

1.1.Purpose

The fall arrest system NIKO PSS 25 is to be used exclusively for the safety of persons suspended after a fall.

The system does not replace personal safety harnesses (PPE – personal protective equipment).

Generally the fall arrest system is suited for maximum 3 persons per meter length of line. The maximum number of persons must be adjusted according to the requirements as follows:

a.) Determination of the maximum number of persons
b.) The supporting structure must be designed to withstand the worst case scenario,i.e. if all persons operating the system were to fall at once.
c.) Calculate 10kn dynamic load affecting the system (or according to chart at 26.B06P) for one person:for each additional person add 1kn.
d.) it is important to conduct an analysis of the rescue options for the maximum number of persons.

2. Safety Instructions

2.1. Terms of Use

1 person permitted on one trolley.

Each safety trolley must only be used in combination with a personal safety harness.
Dampers/shock absorbers are to be used.

a)Safety harnesses must be worn during use in accordance with EN 355.
b)Be aware of the required fall and arrest distances.
c)Distance to collision:
This means the minimum space required to ensure that a secured person does not fall onto any obstacle. The fall height must always be reduced to a minimum. The calculation of the fall height depends on the system used: connectors/fasteners, dampers/shock absorbers, distortion of safety belt.
Minimum distance from the impact point (incl. body height) + 1m to floor or obstacle.

!!! Pay attention to spurs, mouldings or other construction obstacles !!!

3. Product Description
3.1.Components

Horizontal running track system with support brackets for wall or ceiling mounting as well as mounting to a steel beam above.
The internally running trolleys are fitted with 4multi ball bearing rollers and a safety bolt to prevent the trolley falling due to breakage of the axle or bearings.
The track system can be assembled in a straight line or follow a specified course using several types of bends. By dividing the line in several directions, switches are installed which can lead into one or more lines. The trolleys are available in two different types.
Trolley T40P with vertical swivel bolt 360° and ring nut DIN 582.
Trolley T10P with hole (for the use of this trolley as person carrier you have to use a PPE rotating swivel). Track stoppers of type 25.X01 are screwed at the open end of the track. Swivel switches are delivered either with manually or automatically changing switch tongues. The operation can be carried out manually by switch lever or by lever with pulling chain.

3.2.Standards

The components comply with EN 795 class D.

3.3. Assembly

The track system is constructed for vertical assembly. The lines can be in straight or curved.

Mounting: The tracks are attached to steel beams or masonry with support brackets or adjustable brackets. The mounting distances are given at 4.1.

Warning: Each mounting point must be capable of holding a load of 10KN.
Except bracket 26.B06P (look at the chart on page 5)

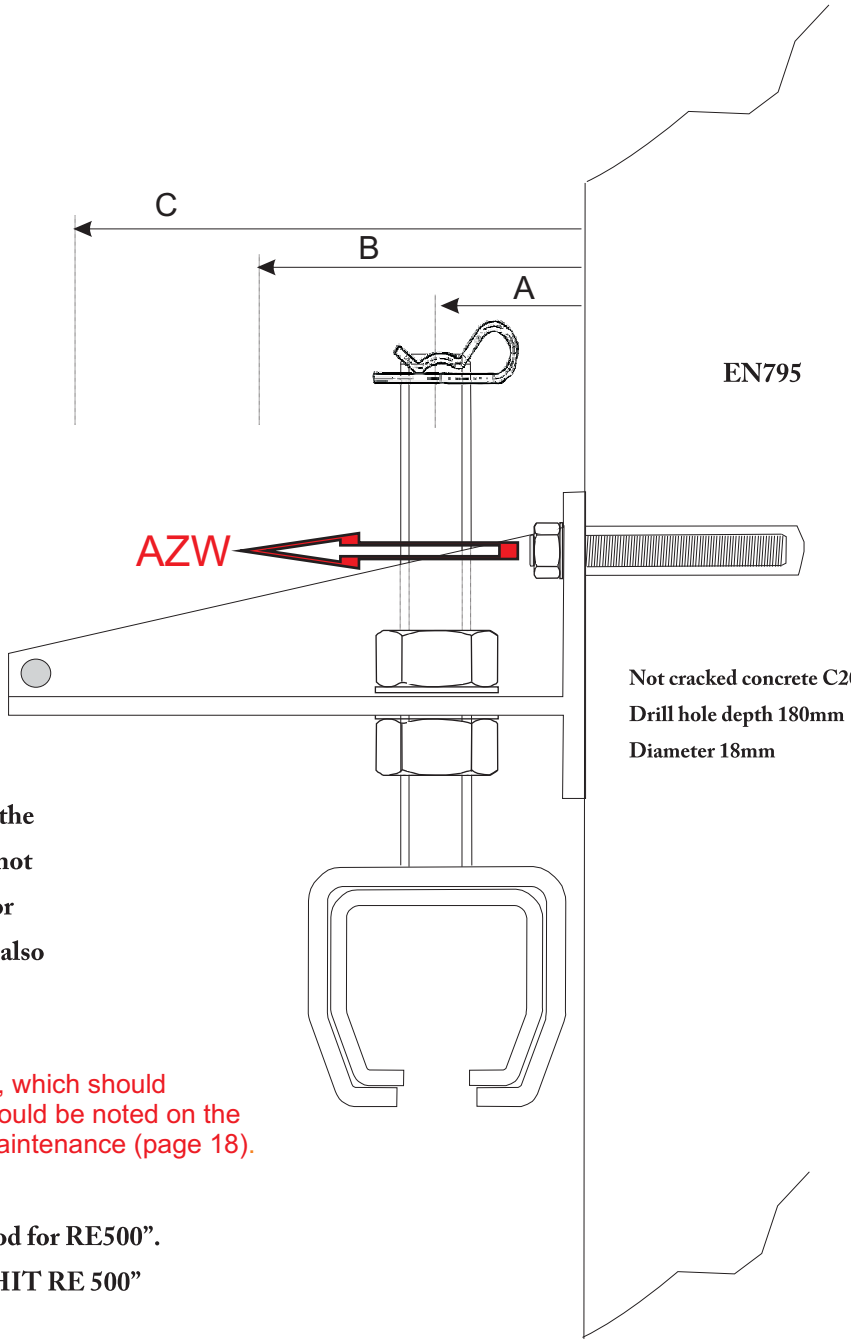
During assembly the support structure must be checked and the strength of the mounting points tested. Assembly onto steel construction's you must use screws of DIN 933 M16 (8.8).
The free standing track ends are allowed to jut out over the last support bracket according to chart page 15 / 4.6. If this distance is exceeded then additional support brackets must be installed.
Free standing track ends and track joints are to be separated by at least a full section. See 4.7 assembly regulations.

For the assembly of bends, a support bracket should be fitted in the center of each bend.The exact positioning of the support brackets is depicted at 4.6 (Example of line) and must be followed. Since the trolleys have no brake mechanism, ascending or descending track requires a different type of support or other restraint method. Please consult the manufacturer for recommendations and ensure proper testing by a qualified person.
(All non-horizontal lines require an extra examination)

The switches are connected into the system via the track joints and must be positioned immediately before the joint. Track end stops must be used on open-ended track and should be secured with a steel bolt and nyloc DIN 933 M8x80 to prevent horizontal shift.

Torque for double adjustable wall bracket Type 26.B06P

The torque (AZW) for the mounting screw M16 8.8 is calculated as follows:



EN795

A Projection up to 45mm 10 KN

B Projection up to 110 mm 17 KN

C Projection up to 165 mm 35 KN

Not cracked concrete C20/50
Drill hole depth 180mm
Diameter 18mm

The torque should be determined in line with the instructions above before mounting and must not be changed either after mounting is complete or after handover to operator. The setting should also be noted for purposes of servicing and testing.

Once fixed, mark the position of the bracket, which should remain the same at all times. Positioning should be noted on the checklist and periodically checked during maintenance (page 18).

We recommend for mounting screw "Anchor rod for RE500".
As mounting adhesive we recommend "HILI HIT RE 500"
on the basis of specification ETA-04/0027.

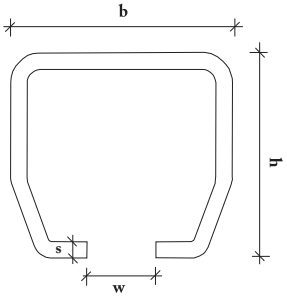
4. System Elements

4.1. Use of Components
Track profiles and track bends

Material for accessories and components
Steel quality St37_2 according to DIN 17100
Ball bearing material AISI 1015, Surface hardness 58-62 HRC
Surface galvanised & yellow chromated.

Track “NIKO”, standard 6000 mm lengths

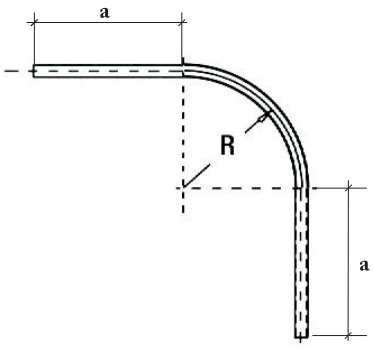
TESTED EN 795



Track Art.Nr.	b	h	s	w
25.000 galv.	65	60	3,6	18
25.060 sendzimier galv.	65	60	3,6	18
26.000 galv	80	75	4,5	22
27.000 galv	110	90	6,5	25

Track bends

TESTED EN 795



Standard bends Art. Nr.	R	+/-	a
25.C06 galv.	580	10	500
25.C06W sendzimier galv.	580	10	500
26.C08 galv.	770	20	500
27.C10 galv.	1035	20	500

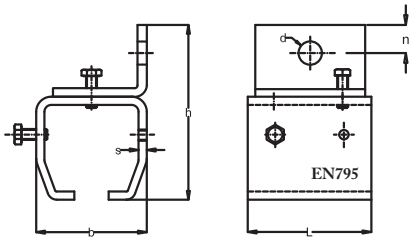
4. System Elements

4.2. **Profile suspension**
Support brackets

! In the event of a fall, the support brackets and dowels should be examined!

Wall support bracket

TESTED EN 795

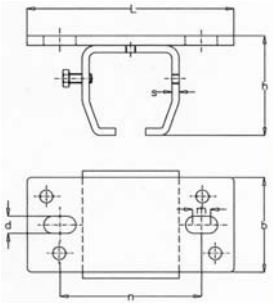


Wall support bracket Art. Nr.	b	h	s	L	n	d
25.B01P	80	125	6	90	18	17
26.B01P	100	160	8	110	25	22
27.B01P	118	210	10	120	32	27

Support brackets

Ceiling support bracket

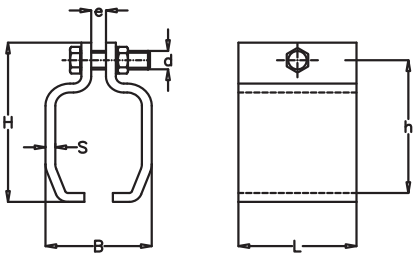
TESTED EN 795



Ceiling support bracket Art. Nr.	b	h	s	L	m	d
25.B02P	80	83	6	170	10	17
26.B02P	100	103	8	210	12	22
27.B02P	118	146	10	260	23	22

Split support bracket for flat steel

TESTED EN 795



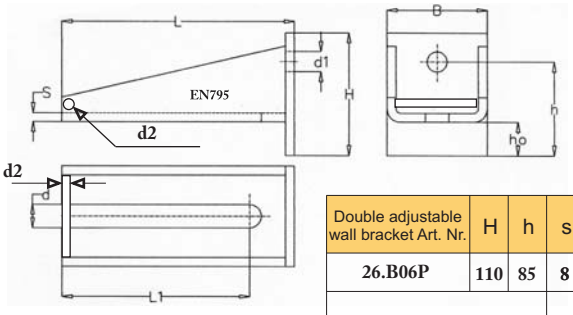
Split support bracket Art. Nr.	B	h	s	L	e	d
25.B03P	77	132	6	90	6	M16
26.B03P	96	150	8	110	8	M16
27.B03P	110	180	10	120	10	M16

Adjustable support brackets for height and lateral adjustment

Double adjustable wall bracket

TESTED EN 795

! In the event of a fall, the double adjustable wall brackets and bolts must be examined and changed if necessary!

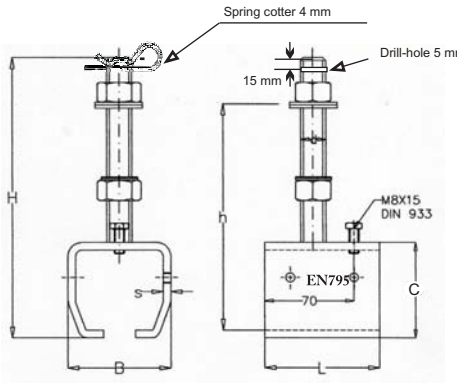


Double adjustable wall bracket Art. Nr.	H	h	s	B	ho	b	L	L1	d1	d2
26.B06P	110	85	8	90	31	21	208	168	18	8
Suitable for adjustable brackets			25.B04P		26.B04P					

Adjustable support brackets for height and lateral adjustment

Adjustable bracket

TESTED EN 795



Adjustable bracket Art. Nr.	H	h	s	B	L	C
25.B04P	215	140	6	82	90	75
26.B04P	292	183	8	100	110	93
Suitable for adjustable wall bracket 26.B06P						

Components for I-Beam mounting

Adjustable joint clamp, parallel

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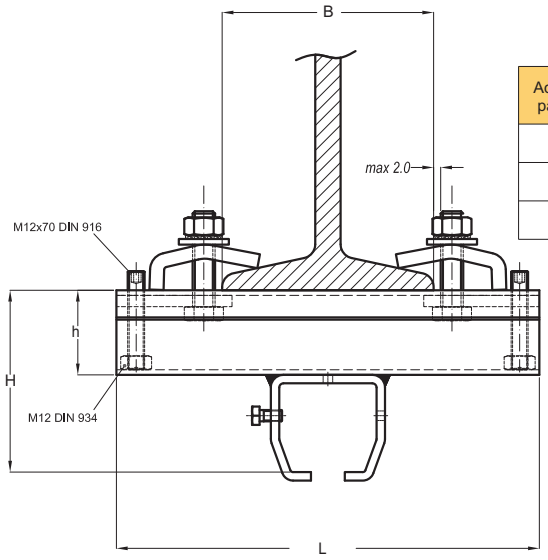
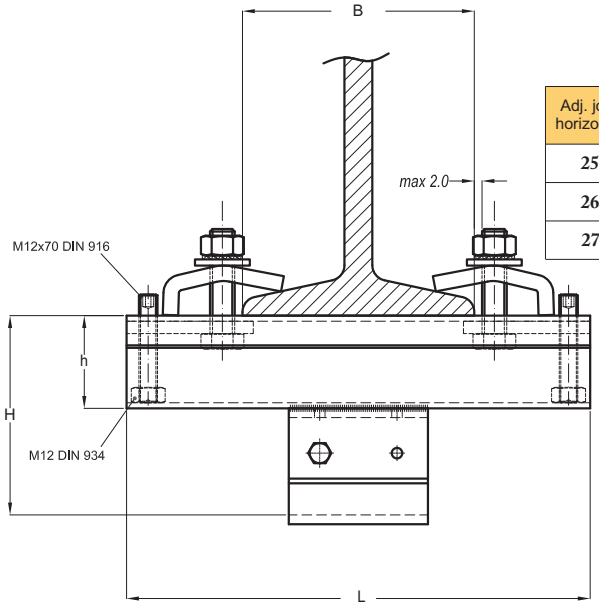


Adj. joint clamp, parallel Art. Nr.	L	B	H	h
25.B35P	300-400	160-220	129	60
26.B35P	300-400	160-220	146	60
27.B35P	300-500	160-320	214	110

Adjustable joint clamp, horizontal

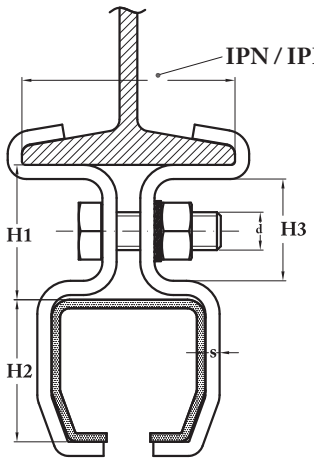
TESTED EN 795



Adj. joint clamp, horizontal Art. Nr.	L	B	H	h
25.B36P	300-400	160-220	129	60
26.B36P	300-400	160-220	146	60
27.B36P	300-500	160-320	214	110

Split suspension bracket for I-beam

TESTED EN 795



Split suspension bracket for track profile	H1	H2	H3	s	d	
25.000	56	60	42	6	M16	
26.000	63	75	44	8	M16	
27.000	90	110	66	10	M16	

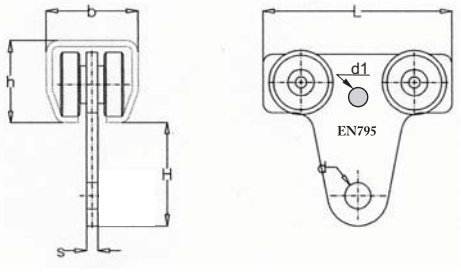
For I-beam IPN / IPE	25.000	26.000	27.000
100 (80)	25.B10P		
120 (100)	25.B12P		
140 (120)	25.B14P		
160 (140)	25.B16P	26.B16P	
180 (160)	25.B18P	26.B18P	
200 (180)	25.B20P	26.B20P	27.B20P
220 (200)	25.B22P	26.B22P	27.B22P
240 (220)	25.B24P	26.B24P	27.B24P
260 (240)	25.B26P	26.B26P	27.B26P

4.3. Trolleys

4-wheel Trolley

! Use of this trolley as a person carrier requires a PPE with a rotating swivel !

TESTED EN 795

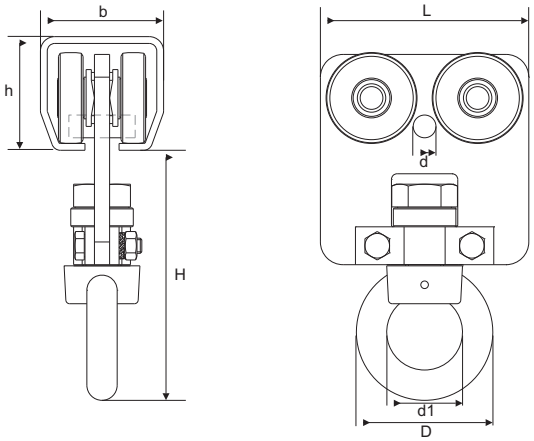


Trolley Art. Nr.	H	h	s	b	L	d	d_1
25.T10P	62	60	10	65	120	18	12
26.T10P	70	75	12	80	145	22	12
27.T10P	108	110	15	90	210	26	12

4-wheel Trolley for persons

with rotating eye nut,DIN 582.

TESTED EN 795



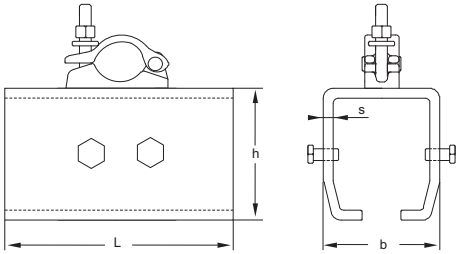
Trolley Art. Nr.	H	h	b	L	d	d_1	D
25.T40P	122	60	65	110	12	12	72
26.T40P	145	75	80	150	12	12	90
27.T40P	163	110	90	200	12	12	108

4.4. Splice joints, brackets + track end stop

Splice joint for tracks

Scaffolding splice joint for mounting on scaffold tube 1½“, 48,30 mm

TESTED EN 795



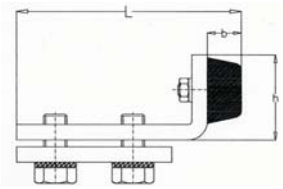
Scaffolding splice joint Art. Nr.	b	h	s	L
25.B80P	80	75	6	180
26.B80P	100	93	8	200
27.B80P	114	134	10	250

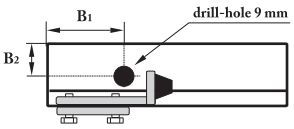
Track End Stops

Track end stop

In addition to the track end stop a safety screw is required (see sketch).

TESTED EN 795





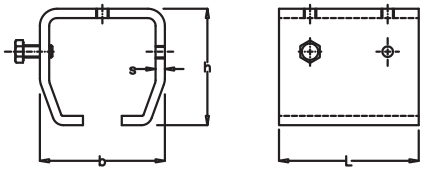
Positioning of safety screw M8x80

Track endstop Art. Nr.	L	b	h	B_1	B_2
25.X01P	80	75	6	110	30
26.X01P	100	93	8	135	30
27.X01P	114	134	10	135	50

4.4 Support brackets & stopper
Support bracket without mounting flange

Bracket for welding on existing building frame.

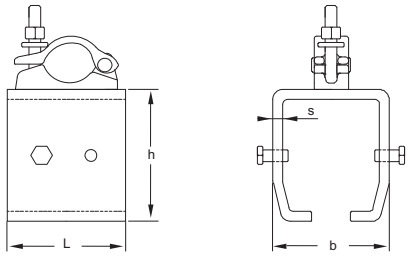
TESTED EN 795



Support bracket Art. Nr.	b	h	s	L
25.B00P	80	75	6	90
26.B00P	100	93	8	110
27.B00P	114	134	10	120

Scaffolding support bracket for mounting of
Scaffold tube 1½“, 48,30 mm

TESTED EN 795

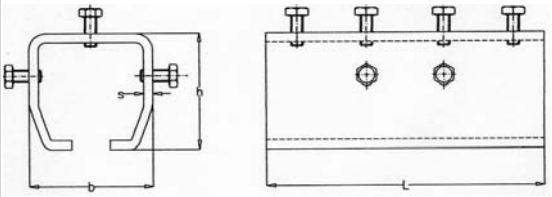


Scaffolding support bracket Art. Nr.	b	h	s	L
25.B90P	80	75	6	90
26.B90P	100	93	8	110
27.B90P	114	134	10	120

4.4 Support brackets & stopper
Splice joints for Track

Splice joint for tracks

TESTED EN 795



Splice joint Art. Nr.	b	h	s	L
25.B49P	80	75	6	180
26.B49P	100	93	8	200
27.B49P	114	134	10	250

4.5. Switches

Tongue switches without bends

Manual operation
left or right running angle 30°

TESTED EN 795

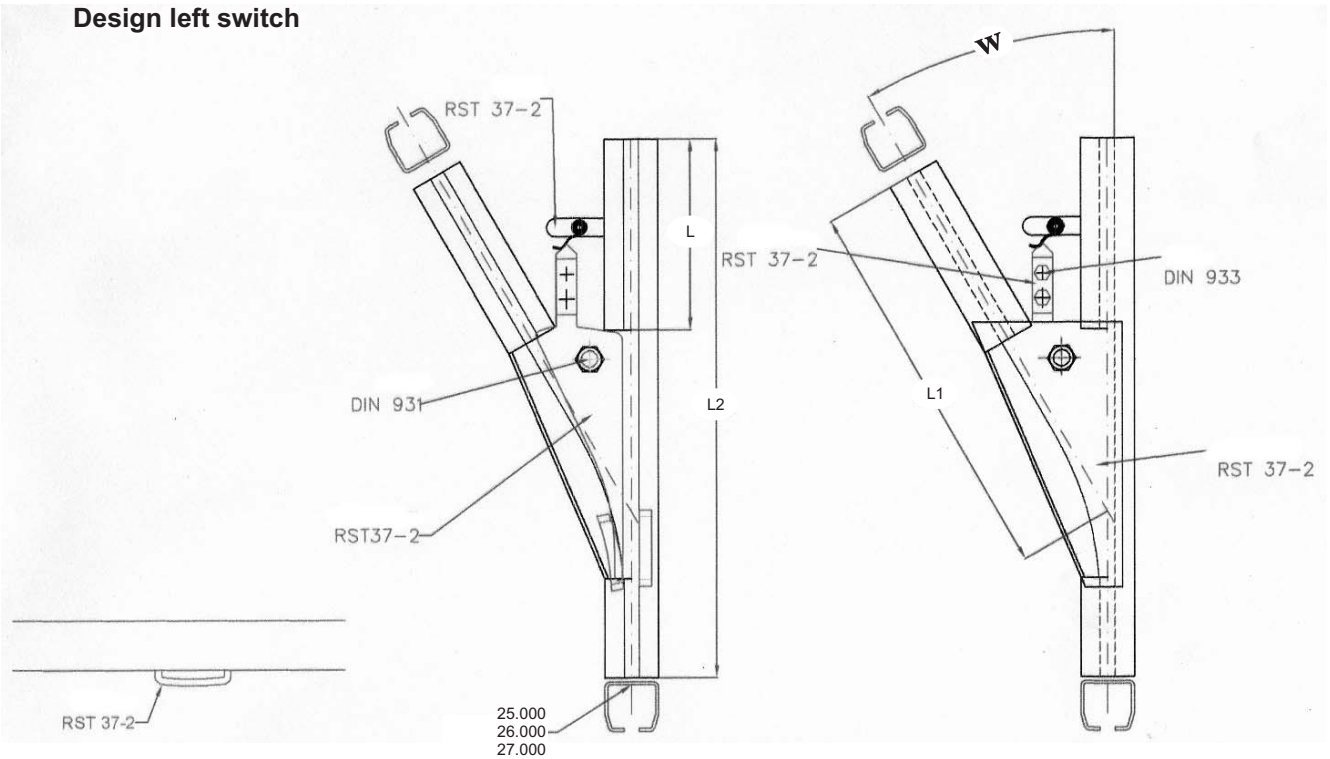
Switch left

Tongue switch w/o bend Art. Nr.	L	L_1	L_2	W
25.A05	220	500	650	30°
26.A05	280	550	750	30°

Switch right

Tongue switch w/o bend Art. Nr.	L	L_1	L_2	W
25.A04	220	500	650	30°
26.A04	280	550	750	30°

Design left switch



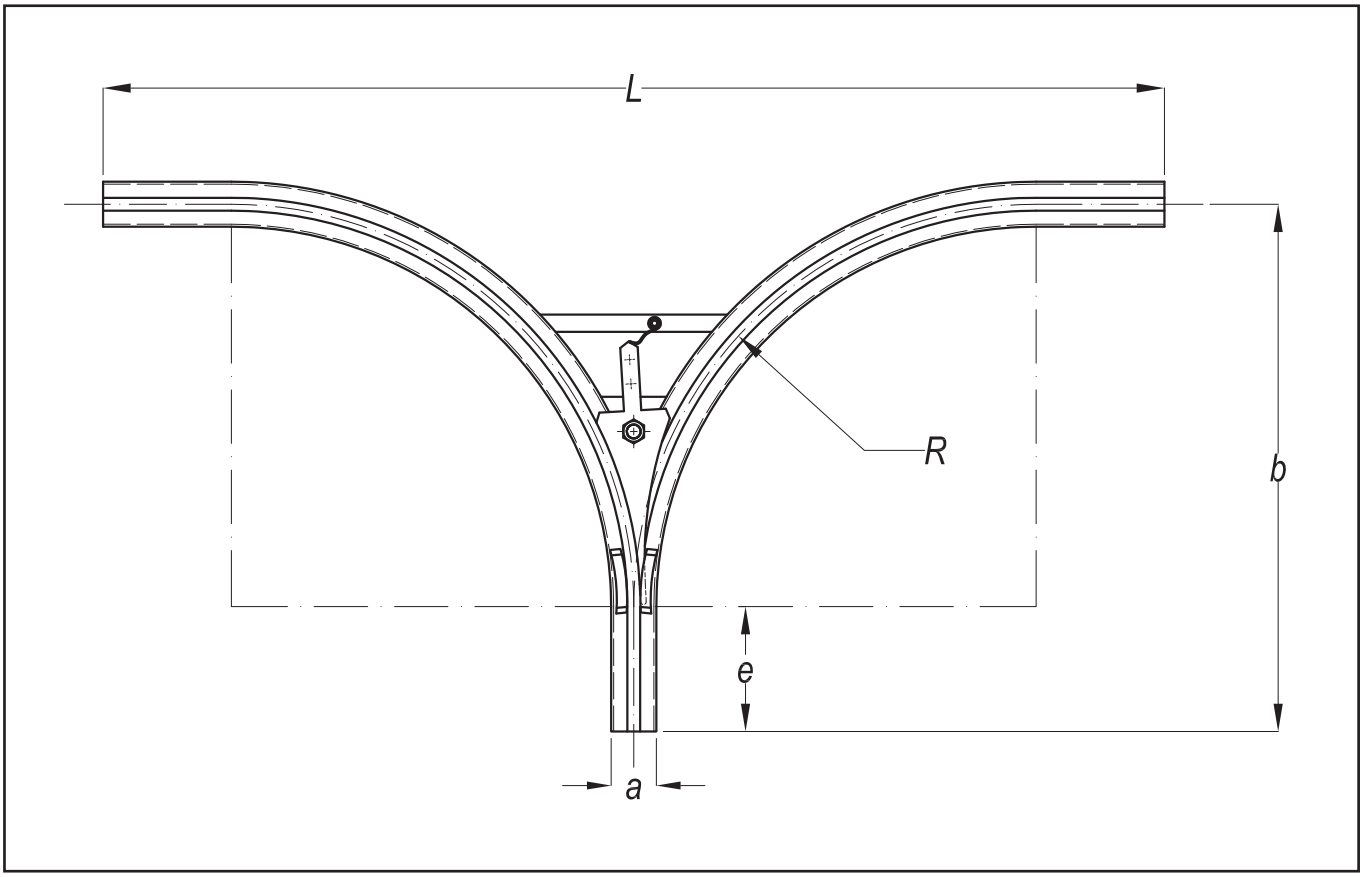
4.5. Switches

Tongue switch complete with Bends

Manual operation
left and right running in angle 90° bends
complete with two 90° bends

TESTED EN 795

Tongue switch Art. Nr.	a	b	L	e	R
25.A47	65	760	1600	180	580
26.A47	80	980	2000	210	770
27.A47	90	1335	3000	300	1035

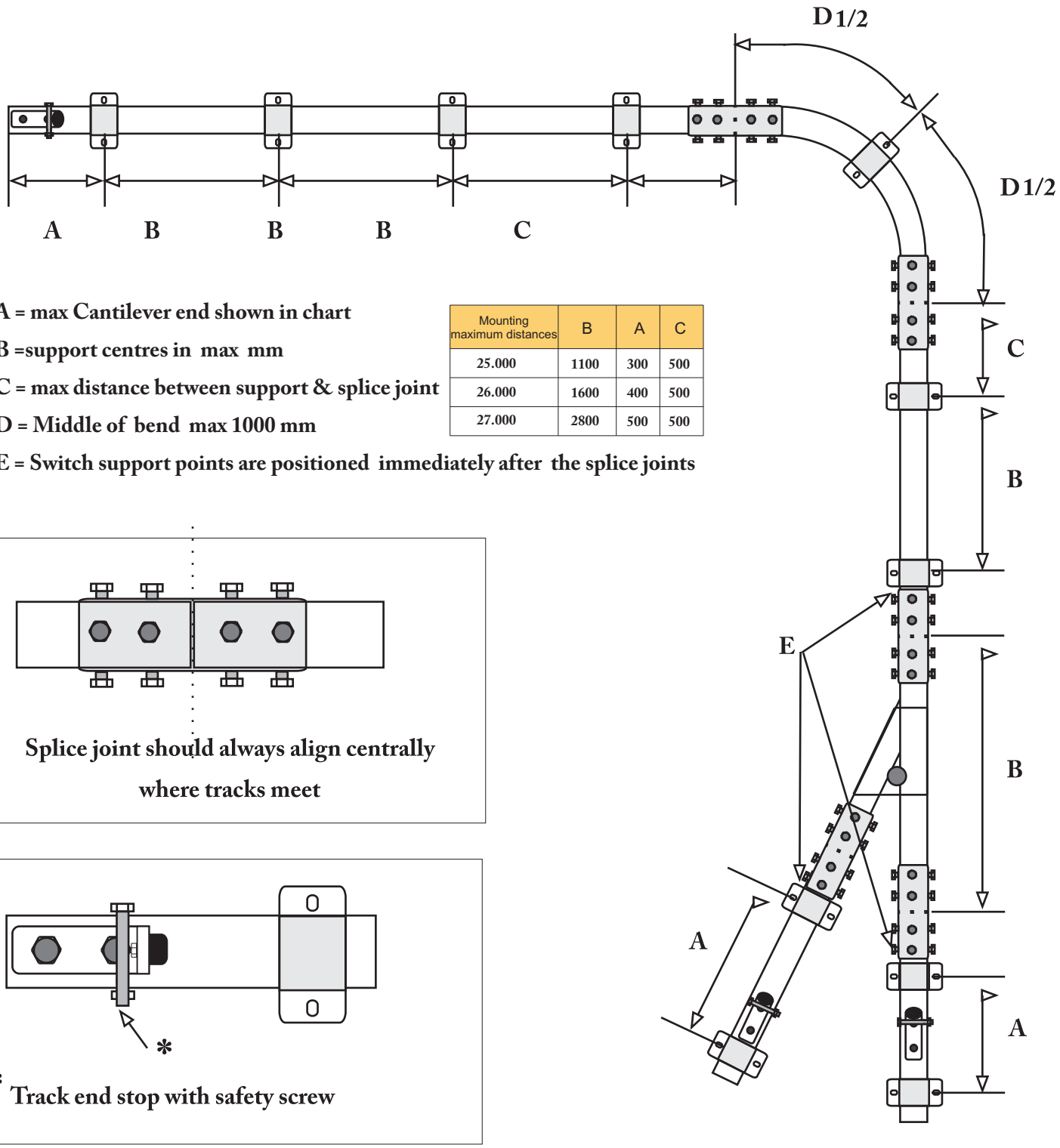


4.6. Example of line

The mounting points are shown in the diagram below.

Measurements given are maximum distances.

The example below is the top view of a system mounted with ceiling brackets.



A = max Cantilever end shown in chart

B =support centres in max mm

C = max distance between support & splice joint

D = Middle of bend max 1000 mm

E = Switch support points are positioned immediately after the splice joints

Mounting maximum distances	B	A	C
25.000	1100	300	500
26.000	1600	400	500
27.000	2800	500	500

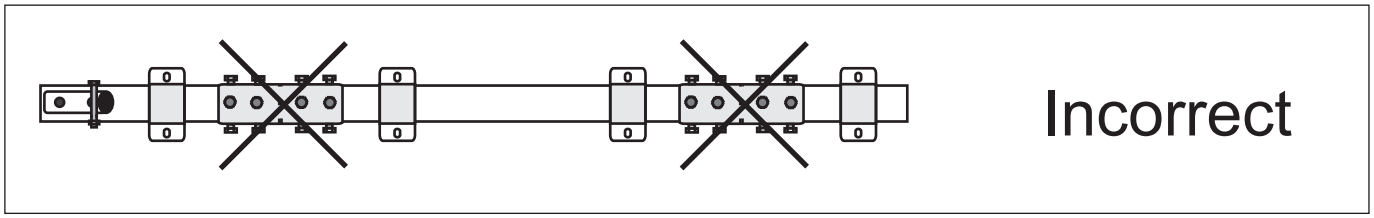
Splice joint should always align centrally where tracks meet

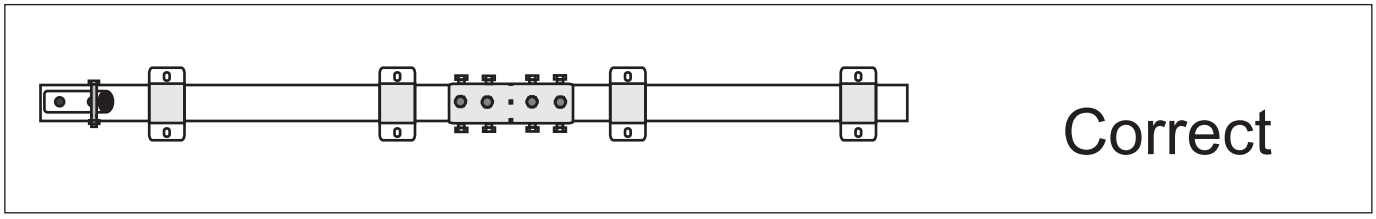
* Track end stop with safety screw

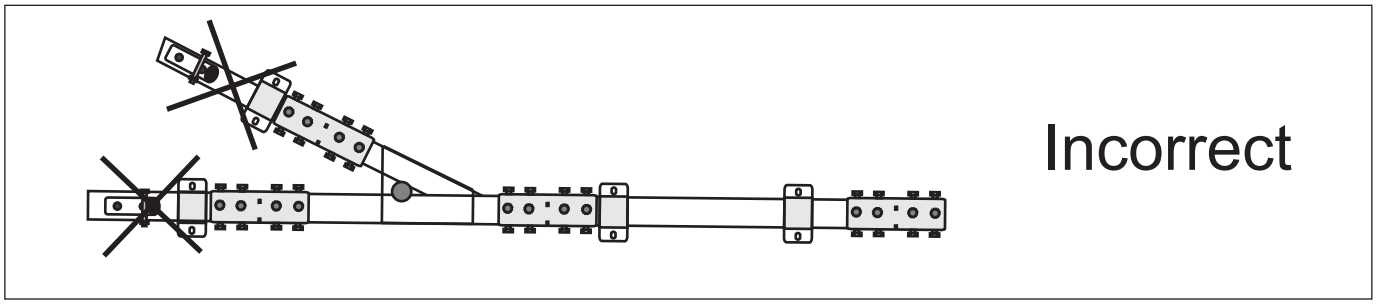
4.7. Assembly regulations

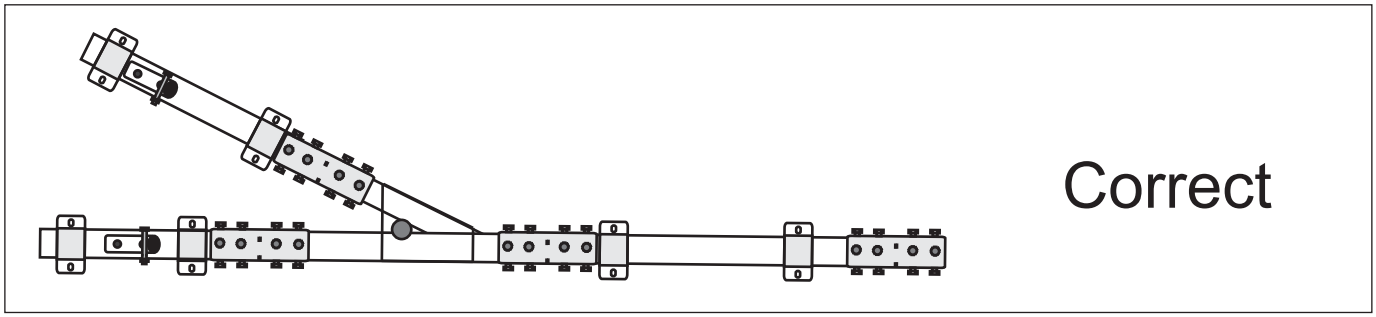
Please note the specified points in the diagram below.

Do not place track joints, bends or switches in a cantilever or in an edge section.
The same goes for track bends and switches.









Special constructions are only permitted after proper investingations andwritten approval from an authorised afency.

5. Safety Instruction

All mounting points must be set up as shown in example 4.6. The manufacturer takes no responsibility for incorrect assembly. Ensure all parts are correctly aligned at track crossings. Correct alignment of the parts will produce the best running quality. After assembly of the support brackets, the track is pushed into the support brackets and fixed using the overhead security screws.Poor fixing of the tracks may lead to uneven pressure, causing the track to slide out out. (Risk of falling).

The standard trolley for fall arrest application is T40P. The use of T10P trolleys(designed for carrying materials) requires a PPE rotating swivel in order to carry personnel.

6. Servicing

All Fall Arrest systems NIKO PSS 25-26-27 are subject to repeated inspection. The inspection intervals depend on the use and demands placed on equipment.
Basically the following minimum intervals are to be maintained:

For safety devices that are used no mone than once a month: annual examination in accordance with checklist.

For safety devices used once a week: quarterly examination in accordance with checklist

For safety devices used daily, such as high rope courses & event facilities; weekly examination in accordance with checklist

Special installations must be approved by an authorized inspection office and should be dealt with seperately.

6.1. **Examination Checklist PSS 25-26-27**

All examinations of the fall arrest system NIKO PSS 25-26-27 must be documented in this list.

Part	Tested:	Complies:	Comments
Support brackets			
Screw connections to substructure			
Fixing screw			
Observe yielding			
After fall (change brackets and dowels)			
Projection up to the wall bracket 26.B06P			
Track profile			
Corrosion			
Material wear out			
Track crossings			
Fixing			
Track joints			
Positioning			
Fixing			
Track bends			
Corrosion			
Material wear out			
Track crossings			
Fixing			
Switches			
Corrosion			
Axle screw wear out and play			
Switch tongue function and wear out			
Switch lock function and screw connection			
Wear out & position of switch tongue support holder			
Crossings and position of the track joints			
Screw connection of track joints			
Track stopper			
Screw connection and position			
Security screw positioning			
Rubber buffer			
Trolleys			
Running quality			
Bearing play			
Position of carrying screws			
Position of clip screws			
Wear out on eye nut			
Wear out on trolley body			
Corrosion			
Other			

Equipment examined on:

Permitted for use: Yes ☐ **No** ☐

Examiner:

Fall Arrest System PSS 25-26-27

Mechanism tested according to EN 795 Class D
Test. cert. No. TÜV-A- MHF/FÖT-1/04/FT04-026

Use of the system is permitted only by instructed persons.
Maximum loading weight respectively 100kg respectively 1 trolley.
Loads and persons run along separate tracks.
Pay attention to the operation instructions.

Permitted for ☐ Persons

NikoTrack LLC
300 Highpoint Ave, Portsmouth, RI 02871
T:401-683-7525

Fall Arrest System PSS 25-26-27

Test. cert. No. TÜV-A- MHF/FÖT-1/04/FT04-026

Year of Manufacture: **System No.:**

Inspection Office: Next examination due:

NikoTrack LLC
300 Highpoint Ave, Portsmouth, RI 02871
T:401-683-7525

MEMO

NikoTrack LLC
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