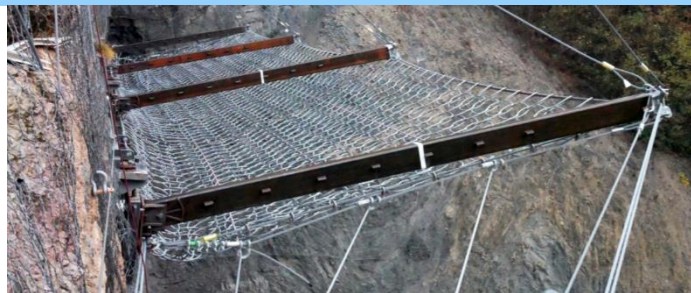


## Technical Product Manual

Rockfall Protection System 3000 EVO  
Energy class 6: 3000kJ



1301 – CPR – 1525



02/2021  
Rev. 1.0

**PFEIFER®** Seil- und Hebetechnik

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protectivestructures@pfeifer.de  
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## **Introduction**

### **Purpose and structure of this manual**

This technical manual covers all important system data concerning the «Rockfall Protection System 3000 EVO». The documents provide information about the technical product details, the referenced product standard, the product performance as well as the forces emerging in the system. Based on this document, the PFEIFER® Seil- und Hebetchnik offers a significant support for the project planning to the principal and the engineer who elaborates the project.

### **Quality**

The company PFEIFER® Seil- und Hebetchnik is in possession of the international quality certificate ISO 9001:2015, the registration number is 12 100 6068/13 TMS. The approval was granted on 28.10.2019. The certification body is TÜV SÜD Management Service GmbH. The systems are CE - conform according to the directive 93/68/EEC. The corresponding certificates can be requested from PFEIFER® Seil- und Hebetchnik.

This document is not subject to revision service.

### **Product description**

This manual refers to the product Rockfall Protection System 3000 EVO. It has an energy absorbing capacity of 3000 kJ. The tested and certified nominal height is 5.0 – 6.0 m (7.5 m in Switzerland).

### **Functional efficiency of the system**

The functional efficiency of the system is based on one-to-one rockfall tests, carried out and tested in accordance with the guideline for approval of rockfall protection kits (EAD 340059-00-0106 resp. ETAG 027). With the successful test and by fulfilling the guideline requirements of factory production control, this system was CE marked. For the evaluation of the product conformity, an independent test body was appointed. This product is officially approved as a construction product in Europe.

## Maintenance

After installation acceptance, PFEIFER® Seil- und Hebetchnik offers further assistance to guarantee safety level and the functional efficiency of the system. Proper monitoring and professional maintenance are crucial for this. For these matters an appropriate manual from PFEIFER® Seil- und Hebetchnik is available.

## Property

This document is the property of PFEIFER® Seil- und Hebetchnik. It is not allowed to make copies or gain access to this document in the full as well as in parts. Exceptions need a written permission of PFEIFER® Seil- und Hebetchnik.

Knonau, Februar 2021

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Protective Structures  
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DE-87700 Memmingen

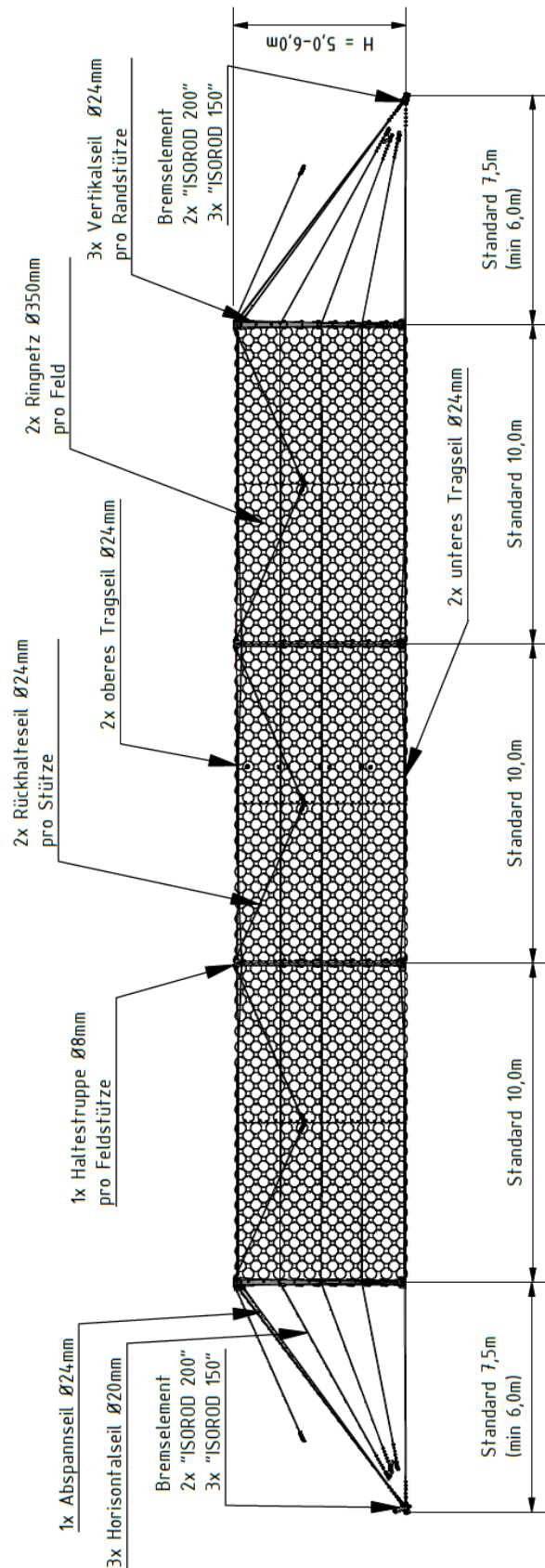
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Protection Systems

Mirosław Mrozik

Markus Müller





**1301**

**Pfeifer Isofer AG  
Hasentalstr. 8, 8934 Knonau  
Switzerland**

**2020**

**1301 – CPR – 1525**

**ETA – 20/0170  
Edition April 2020**

**EAD 340059-00-0106**

**Falling Rock Protection Kit ISOSTOP 3000 EVO**

**Energy level classification: 6**

**Residual height category for maximum energy level: A**



**Notifikovaná osoba č. 1301**

**TECHNICKÝ A SKÚŠOBNÝ ÚSTAV STAVEBNÝ, n. o.**  
 BUILDING TESTING AND RESEARCH INSTITUTE  
 Studená 3, 821 04 Bratislava, Slovenská republika

**Certificate of constancy of performance**

**1301 – CPR – 1525**

In compliance with Regulation (EU) No 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

**Falling Rock Protection Kit ISOSTOP 3000 EVO**

**Energy level classification**

**6**

**Classification for residual height for MEL**

**Category A**

with the intended use to stop moving rock blocks on a slope with the Service Energy Level (SEL) 1000 kJ and with the Maximum Energy Level (MEL) 3000 kJ and covers a range of ambient temperatures from - 20 °C to + 50 °C.

Placed on the market under the name of

**Pfeifer Isofer AG**  
**Hasentalstrasse 8, CH-8934 Knonau**  
**Switzerland**

and produced in the manufacturing plant

**Pfeifer Isofer AG**  
**Hasentalstrasse 8, CH-8934 Knonau**  
**Switzerland**

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in the

**ETA 20/0170, issued on 14/04/2020**

and

**EAD 340059-00-0106**

under system 1 for the performance set out in the ETA are applied and that the factory production control conducted by the manufacturer is assessed to ensure the

**constancy of performance of the construction product.**

This certificate was first issued on 21 April 2020 and will remain valid as long as neither the ETA, the EAD, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

Bratislava, 21 April 2020



Dipl. Ing. Daša Kozáková  
 Head of Notified Body 1301

132001



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 Studená 3  
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## European Technical Assessment

**ETA 20/0170 – version 01  
 of 14/04/2020**

### General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: **Technický a skúšobný ústav stavebný, n. o.**

Trade name of the construction product	Falling Rock Protection Kit ISOSTOP 3000 EVO
Product family to which the construction product belongs	Product area code: 34 Building Kits, Units and Prefabricated elements
Manufacturer	Pfeifer Isofer AG Hasentalstrasse 8 CH-8934 Knonau Switzerland <a href="http://www.pfeifer-isofer.ch">http://www.pfeifer-isofer.ch</a>
Manufacturing plant	Pfeifer Isofer AG Hasentalstrasse 8 CH-8934 Knonau Switzerland
This European Technical Assessment contains	28 pages including 18 annexes which form an integral part of this assessment.  Annexes 6/7/8 contain confidential information and are not included in the European Technical Assessment when that assessment is publicly available.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 340059-00-0106
This version replaces	–



**Technical data sheet Rockfall Protection System 3000 EVO**

<b>Product</b>	
Type	Rockfall Protection System 3000 EVO
Energy class	6 (3000 kJ)
System height	5,0 – 6,0 m (CH up to 7.5m)
Post spacing	8,0 – 12,0 m
Max. system length	60,0 m (without intermediate anchoring)

<b>Support structure</b>							
<b>Post</b>	<b>Test height</b>	<b>Selling heights</b>					
Type of post	RHP 250 H= 5.0 m	H= 5.0 m	H= 5.5 m	H= 6.0 m	H= 6.5 m	H= 7.0 m	H= 7.5 m
Dimensions	250x150x5282 mm	x 5.3 m	x 5.8 m	x 6.3 m	x 6.8 m	x 7.3 m	x 7.8 m
Weight	249 kg	249 kg	293 kg	280 kg	315 kg	337 kg	359 kg
Material quality	S355	S355	S355	S355	S355	S355	S355
Corrosion protection	galvanized according to EN ISO 1461						
<b>Base plate</b>							
Type of plate	Universal						
Drawing	60.20392						
Dimensions	400 x 800 x 230 mm						
Weight	51 kg						
Material quality	S235						
Corrosion protection	galvanized according to EN ISO 1461						

<b>Interception structure</b>							
<b>Ring net</b>	<b>Test height</b>	<b>Selling heights</b>					
Drawing	5.0 m	5.0 m	5.5 m	6.0 m	6.5 m	7.0 m	7.5 m
Dimensions	ROCK-EVO-...	-02-01	-02-02	-02-03	-02-04	-02-05	-02-06
Weight	5.0 x 5.6 m	5.0 x 5.6 m	5.0 x 6.1 m	5.0 x 6.6 m	5.0 x 7.1 m	5.0 x 7.6 m	5.0 x 8.1 m
Ring diameter	350 mm						
Ring construction	1 x 19 loops / spliced						
Net construction	4 connection points						
<b>Wire</b>							
Wire diameter	Ø 3mm						
Wire strength class	> 1410 N/mm <sup>2</sup>						
Corrosion protection	Zn / Zn95/Al5						

<b>Mesh</b>	
Mesh	Diagonal wire mesh
Dimensions	25x2 m
Mesh size	50x50 mm
Wire diameter	Ø 2,5 mm, galvanized according to 10244-2 class A
Material quality	400 – 500 N/mm <sup>2</sup>
Weight	75 kg / Roll
Corrosion protection	Hot-dip galvanized

<b>Energy dissipating devices</b>		
Type	ISOROD 150 incl. Booster	ISOROD 200 incl. Booster
Drawing	60.70032	60.70033
Dimensions	1622 x 15 x 130 mm	2115 x 15 x 150 mm
Weight	30.4 kg	63.7 kg
Material quality	Core: S355 MC, Booster: S355	Core: S355 MC, Booster: S355
Braking distance	max. 3000 mm	max. 4000 mm

<b>Connection elements</b>	
<b>Shackles</b>	
Norm	EN 13889
Drawing	60.60201
Dimensions	5/8"; 7/8"; 1 1/4"
Weight	0.63 kg; 1.50 kg; 4.31 kg
Material quality	According EN 13889
Corrosion protection	Hot-dip galvanized
<b>Wire rope clamps</b>	
Norm	EN 13411-5
Drawing	60.60202
Dimensions	8, 22, 26
Weight	0.18 kg; 0.68 kg; 1.17 kg
Material quality	Saddle: Malleable cast iron W40-05 or B35-10 according to ISO 5922; Clamping bracket: Strength class 6.8 according to EN ISO 898-1 Collar nut: Strength class 6 according to EN 20898-2
Corrosion protection	electrogalvanized and yellow chromated; or ZnAl, hot-dip galvanized

<b>Screws, nuts and washers</b>	
Hex - screw	DIN 931 M24x150mm 8.8 tzn
Hex - nut	DIN 934 M24 tzn
Washer	DIN125 Ø 25 tzn
Hex - screw	DIN 931 M20x160mm 8.8 tzn
Hex - nut	DIN 934 M20 tzn
Washer	DIN125 Ø 21 tzn
<b>Split pin</b>	
Split pin	8.0x63 DIN94-St Zn

<b>Ropes</b>	
<b>Support ropes</b>	
Norm	EN-12385-4
Rope diameter	Ø 24mm
Weight	230 kg / 100 m
Rope construction	6x19 or 6x36
Rope strength class	1770 N/mm <sup>2</sup>
Corrosion protection	Zn / ZnAl according to EN 10244-2
<b>Horizontal ropes</b>	
Norm	EN-12385-4
Rope diameter	Ø 20 mm
Weight	160 kg / 100 m
Rope construction	6x19 or 6x36
Rope strength class	1770 N/mm <sup>2</sup>
Corrosion protection	Zn / ZnAl according to EN 10244-2
<b>Vertical ropes</b>	
Norm	EN-12385-4
Diameter	60.40013
Rope diameter	Ø 24mm
Weight	230 kg / 100 m
Rope construction	6x19 or 6x36
Rope strength class	1770 N/mm <sup>2</sup>
Corrosion protection	Zn / ZnAl according to EN 10244-2

<b>Retention cables</b>	
Norm	EN-12385-4
Drawing	60.40014
Rope diameter	Ø 24mm
Weight	230 kg / 100 m
Rope construction	6x19 or 6x36
Rope strength class	1770 N/mm <sup>2</sup>
Corrosion protection	Zn / ZnAl according to EN 10244-2
<b>Suspension cables</b>	
Norm	EN-12385-4
Drawing	60.40014
Rope diameter	Ø 24mm
Weight	230 kg / 100 m
Rope construction	6x19 or 6x36
Rope strength class	1770 N/mm <sup>2</sup>
Corrosion protection	Zn / ZnAl according to EN 10244-2

<b>Anchoring</b>	
Post anchoring	2 x GEWI Ø 32 for unconsolidated rock 4 x M30 threaded rod or GEWI 25 for solid rock or foundations
Upper support rope with lateral suspension	Spiral rope anchor Ø 18 mm or GEWI 32
Upper and middle horizontal rope	Spiral rope anchor Ø 18 mm or GEWI 32
Lower support rope with lower horizontal rope	Spiral rope anchor Ø 18 mm or GEWI 32
Retention cables	Spiral rope anchor Ø 18 mm or GEWI 32

<b>Product certificate</b>	
Test standard	ETA 20/0170 (April 2020) and EAD 340059-00-0106
Product classification	Category A

**Test report Rockfall Protection System 3000 EVO**

<b>Model</b>		<b>Rockfall Protection System 3000 EVO</b>
<b>Manufacturer</b>		PFEIFER® Seil- und Hebetchnik Dr.-Carl-Lenz-Str. 66 87700 Memmingen Germany
<b>Test body</b>		TSUS Studená 3 821 04 Bratislava Slovak Republic
<b>Test facilitation</b>		TSUS Studená 3 821 04 Bratislava Slovak Republic
<b>System details</b>	Energy (class 6)	3000 kJ
	Commercial height	5.0 – 6.0 m (CH up to 7.5 m)
	Type of post	RHP 250 x 150 x 6.3mm
	Length of post	5.3 – 7.8 m
	Distance (posts)	10,0 m
	Support rope	Ø 24 mm
	Type of rope	6x19 or 6x36
	Retention cable	Ø 24 mm
	Type of rope	6x19 or 6x36

<b>System details</b>	Type of net	Ringnet
	Mesh size	350 mm
	Ring construction	Ø3mm with 19 loops
	Energy dissipating devices	ISOROD 150 + ISOROD 200

**Test certificate Rockfall Protection System 3000 EVO**

<b>Test – Result SEL 1</b>	Mass	3283 kg
	Speed	25.3 m/s
	Kinetic energy	1050.7 kJ
	Shape of the block	ETAG-Block
	Braking distance	5.15 m
	Braking time	404 ms
	Nominal height	5.19 m
	Residual height	3.64 m
	Category	A
	Max. force upper support rope	164.7 kN
	Max. force lower support rope	93.6 kN
	Max. force retention cables	158.9 kN
	Max. force horizontal ropes	90.9 kN
<b>Test – Result SEL 2</b>	Mass	3283 kg
	Speed	25.04 m/s
	Kinetic energy	1029.2 kJ
	Shape of the block	ETAG-Block
	Braking distance	7.13 m
	Braking time	260 ms
	Max. force upper support rope	176.0 kN
	Max. force retention cable	152.9 kN
Max. force horizontal ropes	145.6 kN	

**Remark on the service life**

Supports and shackles are hot-dip galvanized. Wire ropes and wire rope nets are thick galvanized according to EN 10244-2 class B and are optionally also offered in the same galvanizing class with a

<b>Test – Result MEL</b>	Mass	9319 kg
	Speed	25.65 m/s
	Kinetic energy	3065.6 kJ
	Shape of the block	ETAG-Block
	Braking distance	7.68 m
	Braking time	464 ms
	Nominal height	5.17 m
	Residual height	3.08 m
	Category	A
	Max. force upper support rope	182.3 kN
	Max. force lower support rope	182.2 kN
	Max. force retention cables	217.6 kN
	Max. force horizontal ropes	132.7 kN
	Testlocation	Trento, Italy
	Test execution	Pfeifer Isofer AG
Date of the tests	07. Nov. 2019 / 28. Nov. 2019	

zinc-aluminum coating. The wire rope clamps are galvanized according to EN ISO 4042. The service life of the complete system is at least 25 years under medium corrosive conditions.

**Information about the rope guiding**

Double rope support ropes with 3 additional horizontal ropes.

**Position and type of the energy dissipating devices**

Upper support ropes: 1x ISOROD 200 per side & double support rope  
 Lower support ropes: 1x ISOROD 200 per side & double support rope  
 Horizontal ropes: 1x ISOROD 150 per side & horizontal rope

**Method of fastening the net**

Support rope is pushed / shackled through the net  
 All maximum rope forces according to test: see anchor data sheet  
 All relevant rope forces: see anchor data sheet  
 All static equivalent loads: see anchor data sheet  
 All anchor forces: see anchor data sheet

**PFEIFER**



# Checklist Inspection

## Personal Information

Inspection on: \_\_\_\_\_ (dd.mm.yyyy)

Executive company: \_\_\_\_\_

Name of inspector: \_\_\_\_\_

Signature: \_\_\_\_\_

## General Informationen

**Maintenance**

Removing from	Vegetation	<input type="checkbox"/>	
	Debris	<input type="checkbox"/>	
	Wood	<input type="checkbox"/>	
Damage present	Yes	<input type="checkbox"/>	→ continue on sheet 2: Damage survey
	No	<input type="checkbox"/>	
Measure required	Yes	<input type="checkbox"/>	
	No	<input type="checkbox"/>	

Type of measure: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Damage survey

## General Informationen

Impact area: \_\_\_\_\_

Foreign object in the barrier:	Debris, wood	< 30cm	<input type="checkbox"/>
		> 30cm	<input type="checkbox"/>
	Stones	< 100kg	<input type="checkbox"/>
		> 100kg	<input type="checkbox"/>
		> 500kg	<input type="checkbox"/>

## Damages

Suspension rope / guide rope / brake elements			Anchoring		
Damaged rope	Yes	<input type="checkbox"/>	Type of anchor	Spiral cable anchor	<input type="checkbox"/>
	No	<input type="checkbox"/>		Anchor rod	<input type="checkbox"/>
Rope sagging between posts	< 30cm	<input type="checkbox"/>	Anchor damaged	Yes	<input type="checkbox"/>
	> 30cm	<input type="checkbox"/>		No	<input type="checkbox"/>
	< 50cm	<input type="checkbox"/>			
	> 50cm	<input type="checkbox"/>			
Brake elements activated	< 20cm	<input type="checkbox"/>			
	> 20cm	<input type="checkbox"/>			
	> 50cm	<input type="checkbox"/>			
Retention cables / braking elements			Mesh & Cross Clamp		
Damaged rope	Yes	<input type="checkbox"/>	Mesh rope breaks	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>		No	<input type="checkbox"/>
Post inclination: _____			Cross clamps torn out	Yes	<input type="checkbox"/>
Braking elements activated	< 20cm	<input type="checkbox"/>		No	<input type="checkbox"/>
	> 20cm	<input type="checkbox"/>			
	> 50cm	<input type="checkbox"/>			
Tensioning cables			Wire mesh		
Damaged rope	Yes	<input type="checkbox"/>	Deformed / twisted	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>		No	<input type="checkbox"/>
			Broken	Yes	<input type="checkbox"/>
				No	<input type="checkbox"/>

Order Nr.

H79031\_NO\_Senja

Rev. 01

**SSV PROJECT:****Senja**

System ISOSTOP 3000 kJ EVO

Corrosion protection ZnAl (A)

Section Nr.

1

Length (m):

120

ETAG 027 certified

Height (m):

5

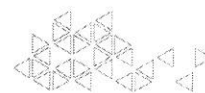
Intermediate anchoring

yes (1)

**Materiell: Steinspranggerde**

Pos.	item	unit	length of ropes	quantity	weight/ unitit	total weight
<b>1.00</b>	<b><u>Pillars complete</u></b>					
472735	Pillar RHP260, with welded pillar head according draw. 0155589, hot dip galvanised	pcs.		13	280.00 kg	3'640.00 kg
226748	Hexagon screw DIN 931 M20 x 160mm 8.8 tzn	pcs.		13	0.45 kg	5.81 kg
215795	Hexagon nut ISO4032 M20 tzn	pcs.		13	0.06 kg	0.83 kg
180298	Washer 21,0 DIN 125 tzn	pcs.		14	0.02 kg	0.24 kg
276970	Screw protection tube M20 x 95 mm according draw. 60.60172	pcs.		14	0.60 kg	8.40 kg
276971	Installation steps, black; according draw. 60.60173	pcs.		91	1.43 kg	130.13 kg
440412	Ground plate type Universal RHP260 SB40 according draw. ZN000716	pcs.		13	51.00 kg	663.00 kg
315170	Anchor angle for 45° anchor, drilling 48 80/80/12mm L=250mm tzn according draw. 60.60231 Pos.2	pcs.		13	1.00 kg	13.00 kg
315394	Screw protection tube M24 x 95 mm according draw.60.60232	pcs.		13	0.63 kg	8.19 kg
276965	Hexagon screw DIN 931 M24 x 160mm 8.8 tzn	pcs.		13	0.50 kg	6.50 kg
226574	Hexagon nut ISO4032 M24 tzn	pcs.		14	0.11 kg	1.54 kg
137101	Washer 25,0 DIN 125 tzn	pcs.		14	3.23 kg	45.22 kg
226433	Bolts L=301mm D=40mm according draw. 48.20071	pcs.		39	1.50 kg	58.50 kg
226583	Splint 8.0x63 DIN 94-St Zn	pcs.		234	0.03 kg	5.85 kg
<b>2.00</b>	<b><u>Retention cables</u></b>					
380356	Rope D=24, 6x19 (6x36) WS+IWRC according EN 12385-4, ZnAl (A) according EN 10244-2 yellow spray, one sided loop according EN 13411-3	pcs.	13	26	28.60 kg	743.60 kg
447584	Wire rope clip EN13411-5, NS 26,0 Zn	pcs.		135	1.17 kg	157.95 kg
447570	Schackle curved, high tensile strength, 7/8", galvanised	pcs.		28	1.50 kg	42.00 kg
<b>3.00</b>	<b><u>Support ropes</u></b>					
488399	Rope D=24, 6x19 (6x36) WS+IWRC according EN 12385-4, ZnAl (A) according EN 10244-2	pcs.	84	8	173.88 kg	1'391.04 kg
315607	Brake element "ISOROD 200" according draw. 60.70032	pcs.		8	150.00 kg	1'200.00 kg
447584	Wire rope clip EN13411-5, NS 26,0 Zn	pcs.		43	1.17 kg	50.31 kg
<b>4.00</b>	<b><u>Horizontal ropes</u></b>					
488409	Rope D=20, 6x19 (6x36) WS+IWRC according EN 12385-4, ZnAl (A) according EN 10244-2	pcs.	78	6	161.46 kg	968.76 kg
315574	Brake element "ISOROD 150" according draw. 60.70032	pcs.		9	30.40 kg	273.60 kg
447549	Wire rope clip EN13411-5, NS 20,0 Zn	pcs.		32	1.17 kg	37.44 kg
<b>5.00</b>	<b><u>Lateral guy rope</u></b>					
380357	Rope D=24, 6x19 (6x36) WS+IWRC according EN 12385-4, ZnAl (A) according EN 10244-2 black spray, one sided loop according EN 13411-3	pcs.	12	4	26.40 kg	105.60 kg
447584	Wire rope clip EN13411-5, NS 26,0 Zn	pcs.		24	1.17 kg	28.08 kg
447570	Schackle curved, high tensile strength, 7/8", galvanised	pcs.		5	1.50 kg	7.50 kg
<b>6.00</b>	<b><u>Vertical rope</u></b>					
497139	Vertical rope outer, D=24, 6x19 (6x36) WS+IWRC according EN 12385-4, ZnAl (A) according EN 10244-2 according draw. ZN000967 Pos. 1	pcs.		2	25.70 kg	51.40 kg
497138	Vertical rope inner, D=24, 6x19 (6x36) WS+IWRC according EN 12385-4, ZnAl (A) according EN 10244-2 one sided loop according EN 13411-3	pcs.	7	2	20.00 kg	40.00 kg
447570	Schäkel geschweift 7/8", stark verzinkt NL = 65 kN, BL = 390 kN	pcs.		10	1.50 kg	15.00 kg
447584	Wire rope clip EN13411-5, NS 26,0 Zn	pcs.		22	1.17 kg	25.74 kg
447570	Schackle curved, high tensile strength, 7/8", galvanised	pcs.		5	2.19 kg	10.95 kg
<b>7.00</b>	<b><u>Ring net ISOSTOP</u></b>					
	4 connection points					
	Mesh size	350 mm				
	Wire diameter	D=3 mm				
	Windings	19				
452069	Net rectangular 350/3/19 high tensile ring net, according draw. Nr. 0154872 Dimension: 5 x 5,6 m	pcs.		24	164.00 kg	3'936.00 kg
447553	Schackle curved, high tensile strength, 8/8", galvanised	pcs.		550	0.63 kg	346.50 kg
	<b>Mounting rope</b>					
389061	Rope D=8, 6x19 M-FC according EN 12385-4, ZnAl (A) according EN 10244-2	pcs.	0.8	23	0.52 kg	11.89 kg
447571	Wire rope clip EN13411-5, NS 9,0 Zn	pcs.		23	0.18 kg	4.07 kg

# Materiell: forankringstag til steinsprang gjerde



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Phone No: +47-62888680  
Fax No.:

Kopro Code 227070 AT. Dywidag Norge AS  
MSP Code GEWH-TA-TE  
VAT Registration No. 929063376MVA  
Delivery Terms CPT (Incoterms® 2020)  
Shipping Method Spedition Spedicam GmbH  
Location KBRUNN-GEO

Your Reference DW NO - Warehouse  
25 T FZ + 32 T FZ + acces. AFZ

## Delivery Note 21-41801

Order No. **AB264042 - 1**  
Customer No. 72450  
Your Ref. No. PO BEST 42  
Salesperson Witold Kierczak  
Phone/Fax  
Date 18.11.2021  
Shipment Date 18.11.2021  
Page No. 1

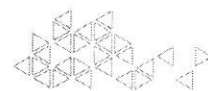
Pos.	Quantity Unit	Description	Item No.	Tariff No.	Backorder Quantity
10	24 piece	GEWI®-bar Ø32 mm, B500B l=4,00 m, hot-dip galva.	32 T 0064 FZ	72142000	0
20	24 piece	surcharge for cutting	32 T 0210		0
30	0,60576 ton	extra pay for raw material of bars licensee Net weight: 605 kg Country of Origin: European Union (EU)	AZROHS LC		0
40	24 piece	anchor nut AF 55x60 mm hot-dip galv., core widened Net weight: 19,8 kg Country of Origin: P.R. China	32 T 2002 AFZ	73181699	0
50	24 piece	anchor nut AF 50x90 mm hot-dip galv., core widened Net weight: 21,1 kg Country of Origin: IT (EU)	32 T 2024 AFZ	73181699	0
60	52 meter	GEWI®-bar Ø25 mm, B500B fix length, hot-dip galva. 52 Stk. à 1 m	25 T 0060 FZ	72142000	0
70	52 piece	unit price hot-dip galvanized bar, bar end reworked & coated	25 T 0210 FZ	72142000	0

DYWIDAG-Systems International GmbH  
Managing Directors: Matti Kuivalainen, Ralf  
Meinardus, Oliver Mäske, Dr. Christian Gläser,  
Christian Römschied

TAX-No.: 143/131/50659  
VAT-Id-No.: DE814585547  
Registered Seat: Munich  
Commercial Register: Munich HRB 156367

Deutsche Bank AG München, Germany  
Acc.-No.: 165125600 (Bank Code 70070010)  
BIC: DEUTDEMM  
IBAN: DE77700700100165125600





## Delivery Note 21-41801

Order No. **AB264042** - 1  
Page No. 2

Pos.	Quantity	Unit	Description	Item No.	Tariff No.	Backorder Quantity
80	0,2002	ton	extra pay for raw material of bars licensee Net weight: 200 kg Country of Origin: European Union (EU)	AZROHS LC		0
90	52	piece	anchor nut AF 41x50 mm hot-dip galv., core widened Net weight: 18,4 kg Country of Origin: IT (EU)	25 T 2002 AFZ	73181699	0
100	1	piece	Picking	520500		0
110	1	piece	Customs clearing	521000		0
120	1	piece	Freight Costs by truck to NO-2210 KONSV based on own cost for three orders AB264042 + AB264079 + AB264080	521100		0

### PACKAGING DATA

- ✓ 1 x Inkapal. 60x40x32 [cm]
  - ✓ 2 x Bundle of steel bars - max.L= 4m
- Total net weight: 864,3 kg  
Total gros weight: 867,3 kg

The exporter of the products covered by this document (customs authorization no. DE/7600/EA/0098) declares that, except where otherwise clearly indicated, these products are of European Union preferential origin.

Net Weight: 864,30 kgs  
Gross Weight: 867,30 kgs

Packed by:

*[Handwritten signature]*

Consignee:

*K.A.*  
*[Handwritten signature]*

Delivery date:

*18.11.21*

Signature of forwarder:

**Bill-to Address**  
Dywidag Norge AS  
Postboks 1323  
2212 KONGSVINGER  
NORWAY




## Item Tracking - Appendix

### Delivery Note 21-41801

Order No. **AB264042** - 1

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	DYWIDAG-Systems International GmbH Destouchesstraße 66, 80796 München www.dywidag-systems.com
<b>CE</b>	DYWIDAG - Post-Tensioning bar tendon system
16	ETA - 05/0123
0432	ETAG 013 (2002)
	Prestressing of structures
<b>CE</b>	DYWIDAG - Strand
16	ETA - 13/0815
0432	ETAG 013 (2002)
	Prestressing of structures
<b>CE</b>	DYWIDAG - External and Internal unbonded Strand Post-Tensioning System
16	ETA - 13/0979
0432	ETAG 013 (2002)
	Prestressing of structures
<b>CE</b>	DYWIDAG - single monostrand anchorage
16	ETA - 13/0814
0432	ETAG 013 (2002)
	Prestressing of structures

 Z- MPA NRW	Z-1.5-2
	Z-1.5-76
	Z-1.5-149
	Z-1.5-150
	Z-12.4-129
	Z-12.4-130
	Z-13.1-10
	Z-13.1-21
	Z-13.1-82
	Z-14.4-674
	Z-20.1-17
	Z-20.1-53
	Z-20.1-84
	Z-20.1-106
	Z-32.1-2
Z-32.1-9	
Z-34.11-225	
Z-34.13-208	



**Item Tracking - Appendix**

**Delivery Note 21-41801**

Order No. **AB264042** - 1  
Page No. **4**

Item No.	Description	Lot No.	Serial No.	Quantity
32	T 2002 AF anchor nut AF 55x60 mm		003973	24,00
				<b>24,00</b>
32	T 2024 AF anchor nut AF 50x90 mm	EF3		14,00
		DG3		4,00
			127371	6,00
				<b>24,00</b>
25	T 2002 AF anchor nut AF 41x50 mm	FD7		52,00
				<b>52,00</b>

## Lokasjon av delelister til steinspranggjerde

Område 1: Parkeringsplass vest for skredoverbygg ved Svartholla, langs Fv862 Medfjordveien

- Materiell: Steinspranggjerde



Område 2: Lagerplass i Kirkegårdsveien 1 a, 9300 Finnsnes

- Materiell: forankring stag

