



SAS
Steel Turkey

ANP KENDINDEN DELEN OYUKLU ÇUBUK SİSTEMİ

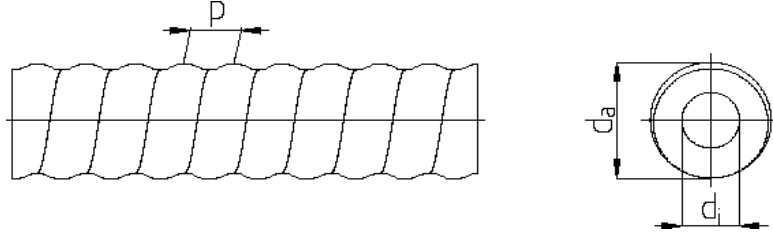
ANP selfdrilling hollowbar system (SHS)



MAX AICHER
UNTERNEHMENSGRUPPE

ANP Kendinden Delen Oyuklu Çubuk Sistemi (SHS)

ANP selfdrilling hollowbar system (SHS)



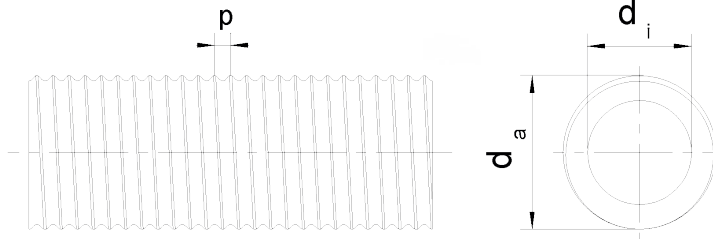
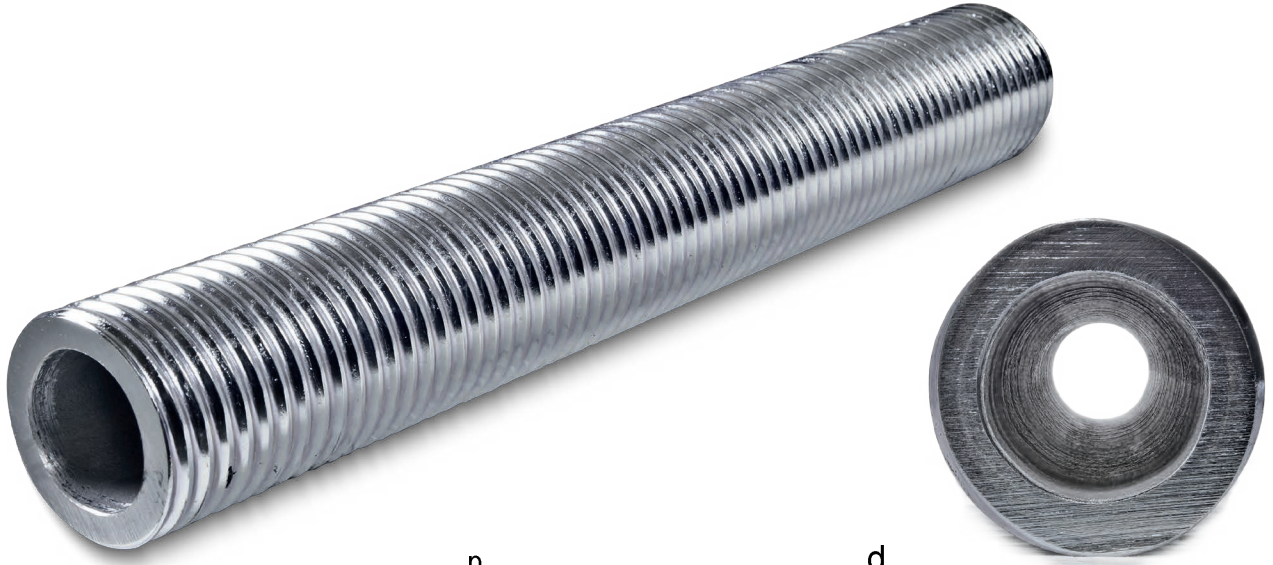
Yuvarlak yiv R Ø 32 - 51 mm
soğuk haddelenmiş - sola yivli
round thread R Ø 32 - 51 mm
cold rolled - left hand thread

Tip / type Ø	[mm]	R32	R32	R32	R32	R32	R38	R38	R51	R51
Parametre / parameter	[mm]	H 0210-32	H 0250-32	H 0280-32	H 0360-32	H 0400-32	H 0420-38	H 0500-38	H 0630-51	H 0800-51
da	[mm]	31,3	31,3	31,3	31,3	31,3	38	38	51	51
di	[mm]	20	18	16,5	14	11,0	22	18,5	31,5	29,5
p	[mm]	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7	12,7
S ₀	[mm ²]	330	370	435	510	565	650	740	930	1145
m	[Kg/m]	2,6	2,9	3,4	4,0	4,4	5,1	5,8	7,3	9,0
F _{yk} (F _{0,2k})	[kN]	170	190	230	280	330	350	400	530	630
F _{tk}	[kN]	210	250	280	360	400	420	500	630	800

ISO 1028'e göre R-thread Ø 32 - 38 mm / R-thread Ø 32 - 38 mm according to ISO 10208

Fabrika standartlarına göre R-thread Ø 51 mm / R-thread Ø 51 mm according to factory standard

ANP Kendinden Delen Oyuklu Çubuk Sistemi (SHS) ANP selfdrilling hollowbar system (SHS)



Yamuk yiv T Ø 64 - 108 mm
soğuk haddelenmiş - sağa yivli
trapezoidal thread T Ø 64 - 108 mm
cold rolled - right hand thread

Tip / type Ø	[mm]	T64	T64	T76	T76	T76	T108
Parametre / parameter	[mm]	H* 1000-64	H* 1200-64	H 1380-76	H 1600-76	H 1900-76	H* 2500-108
da	[mm]	64	64	77	77	77	108
di	[mm]	43,5	40,0	54,0	51,5	46,0	82,5
p	[mm]	8,15	8,15	8,15	8,15	8,15	8,15
S ₀	[mm ²]	1520	1805	2090	2390	2525	3650
m	[Kg/m]	11,3	13,2	15,7	17,3	19,8	27,1
F _{yk} (F _{0,2k})	[kN]	750	900	1075	1200	1500	1850
F _{tk}	[kN]	1000	1200	1380	1600	1900	2500

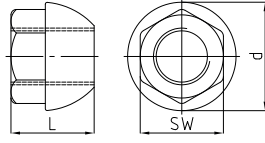
Fabrika standartlarına göre T-thread Ø 64-108 mm / T-thread Ø 64 - 108 mm according to factory standard

* istek üzerine mevcut / available on request

Aksesuarlar accessories

SHS SYSTEM

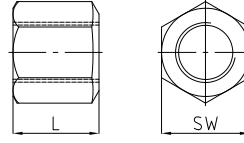
55° kubbe somunu
dome nut 55°



SW x d x L [mm]

[kg]

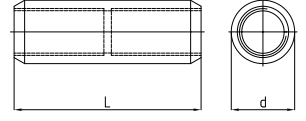
Düz boğa burunlu altıgen somun
hex nut flat bull nose



SW x L [mm]

[kg]

Manşon
coupler



d x L [mm]

[kg]

Tip / type
Ø [mm]

Parametre /
parameter

H 2001

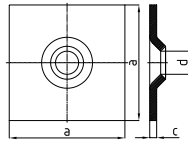
H 2963

H 3003

Tip / type Ø [mm]	Parametre / parameter	SW x d x L [mm]	[kg]	SW x L [mm]	[kg]	d x L [mm]	[kg]
32	H0210-32	46 x 60 x 46	0,45	46 x 50	0,40	42 x 125	0,70
32	H0250-32	46 x 60 x 46	0,45	46 x 50	0,40	42 x 125	0,70
32	H0280-32	46 x 60 x 46	0,45	46 x 50	0,40	42 x 125	0,70
32	H0360-32	46 x 60 x 46	0,45	46 x 50	0,40	42 x 125	0,70
32	H0400-32	-	-	46 x 50	0,45	42 x 150	0,81
38	H0420-38	55 x 70 x 55	0,60	55 x 50	0,60	51 x 163	1,30
38	H0500-38	55 x 70 x 55	0,60	55 x 50	0,60	51 x 163	1,30
51	H0630-51	75 x 90 x 70	1,60	75 x 70	1,60	63 x 180	1,80
51	H0800-51	75 x 90 x 70	1,60	75 x 70	1,60	63 x 180	1,80
64	H1000-64	-	-	85 x 80*	1,90	76 x 180*	1,90
64	H1200-64	-	-	85 x 80*	1,90	76 x 160*	1,70
76	H1380-76	100 x 120 x 90	3,25	100 x 80	2,95	95 x 200	5,50
76	H1600-76	100 x 120 x 90	3,25	100 x 80	2,95	95 x 200	5,50
76	H1900-76	100 x 120 x 90	3,25	100 x 80	2,95	95 x 200	5,50
108	H2500-108	-	-	140 x 100*	6,15	127 x 230*	6,40

SHS SYSTEM

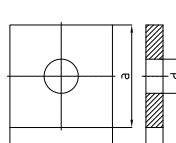
Kubbe plakası
dome plate



a x c x d [mm]

[kg]

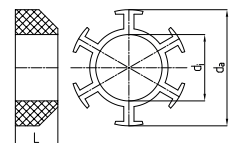
Düz kazık başı plakası
pile head plate flat



a x c x d [mm]

[kg]

PE pas payı
spacer PE



d x L [mm]

[kg]

Tip / type
Ø [mm]

Parametre /
parameter

Hac

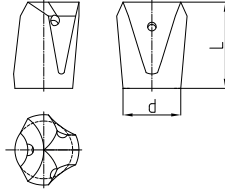
Hac

H 5085

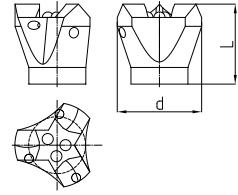
Tip / type Ø [mm]	Parametre / parameter	a x c x d [mm]	[kg]	a x c x d [mm]	[kg]	d x L [mm]	[kg]
32	H0210-32	150 x 8 x 35	1,40	100 x 15 x 35	-	70 x 32 x 25	0,035
32	H0250-32	150 x 8 x 35	1,40	110 x 20 x 35	-	-	-
32	H0280-32	200 x 10 x 35	3,10	110 x 20 x 35	-	-	-
32	H0360-32	200 x 12 x 35	3,70	120 x 25 x 35	-	-	-
32	H0400-32	200 x 12 x 35	3,70	120 x 25 x 35	2,60	-	-
38	H0420-38	200 x 12 x 41	3,70	140 x 25 x 41	3,60	-	-
38	H0500-38	200 x 12 x 41	3,60	140 x 25 x 41	3,60	90 x 38,5 x 25	0,045
51	H0630-51	200 x 15 x 53	4,50	160 x 25 x 53	4,60	110 x 50,5 x 25	0,005
51	H0800-51	200 x 20 x 53	5,90	180 x 30 x 53	7,10	-	-
64	H1000-64	-	-	200 x 30 x 67	8,7	-	-
64	H1200-64	-	-	200 x 35 x 67	10,10	-	-
76	H1380-76	-	-	220 x 45 x 80	15,30	136,5 x 78 x 50	0,10
76	H1600-76	-	-	250 x 50 x 80	22,30	-	-
76	H1900-76	-	-	200 x 35 x 80	9,60	-	-
108	H2500-108	-	-	280 x 50 x 109	27,30	-	-

SHS SYSTEM

Yay şeklinde delgi matkabı EC
arc-shaped drill bit EC



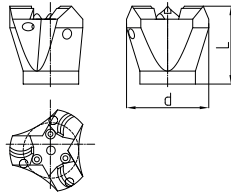
Sertleştirilmiş çapraz delgi matkabı EY-DC
hardened cross drill bit EY-DC



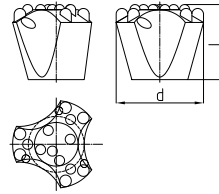
Tip / type Ø [mm]	Parametre / parameter	d [mm]	[kg]	d [mm]	[kg]
		EC		EY-DC	
32	-	51	0,40	76	1,00
38	-	-	-	76	0,90
38	-	-	-	90	1,10
51	-	115	2,30	90	1,80

SHS SYSTEM

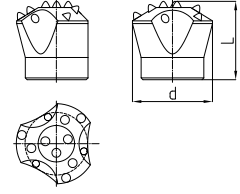
*Tungsten karbid uçlu çapraz delgi
matkabı EYY-DC*
cross drill bit with TC inserts EYY-
DC



Sertleştirilmiş buton matkabı ES
hardened button bit ES



*Tungsten karbid uçlu buton
matkabı ESS*
button bit with TC inserts ESS



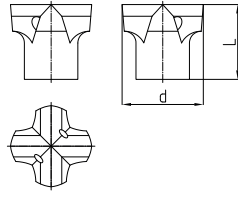
Tip / type Ø [mm]	Parametre / parameter	d [mm]	[kg]	d [mm]	[kg]	d [mm]	[kg]
		EYY-DC		ES		ESS	
32	-	76	1,00	51	0,50	51	0,50
38	-	76	0,90	76	1,20	76	1,20
38	-	90	1,10	90	1,70	90	1,70
51	-	-	-	90	-	76	1,40
51	-	-	-	100	1,80	90	1,80
51	-	-	-	115	2,00	100	3,00
51	-	-	-	-	-	115	3,60
51	-	-	-	-	-	150	4,50
64/76	-	-	-	130	-	130	-
64/76	-	-	-	170	6,00	180	6,00

Aksesuarlar

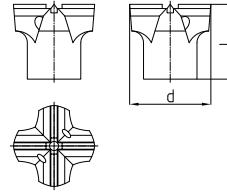
accessories

SHS SYSTEM

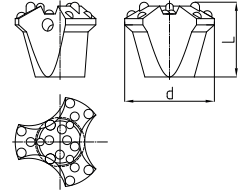
Çapraz matkap EX
cross bit EX



Tungsten karbid uçlu çapraz matkap
EXX
cross bit with TC inserts EXX



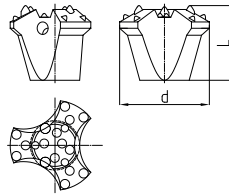
Sertleştirilmiş düşük merkezli
buton matkap ES-DC
hardened button bit with drop-
center ES-DC



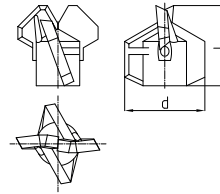
Tip / type Ø [mm]	Parametre / parameter	d [mm]	[kg]	d [mm]	[kg]	d [mm]	[kg]
		EX		EXX		ES-DC	
32	-	51	0,40	51	0,84	-	-
38	-	76	1,20	76	1,30	-	-
38	-	90	1,10	90	1,20	-	-
51	-	76	1,20	76	1,40	115	2,00
51	-	90	1,10	90	1,20	-	-
51	-	-	-	115	1,35	-	-
64 / 76	-	130	4,30	130	4,30	-	-

SHS SYSTEM

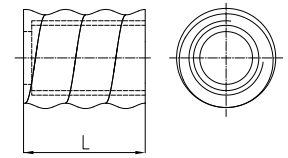
Tungsten karbid uçlu düşük merkezli
buton matkap ESS-DC
button bit with TC inserts dropcenter
ESS-DC



Kil matkabı
clay bit



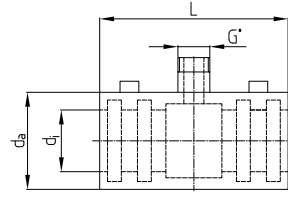
Delgi matkabı adaptörü
drill bit adapter



Tip / type Ø [mm]	Parametre / parameter	d [mm]	[kg]	d [mm]	[kg]	L [mm]	[kg]
		ESS-DC		EW		H 4901-38/-51	
32	-	-	-	76	0,7	40	0,10
32	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-
38	-	-	-	100	1,1	-	-
38	-	-	-	115	1,2	-	-
51	-	115	2,00	130	2,1	45	0,30
51	-	-	-	150	2,4	-	-
51	-	-	-	175	2,7	-	-
64 / 76	-	-	-	130	-	-	-
64 / 76	-	-	-	150	-	-	-
64 / 76	-	-	-	175	-	-	-
64 / 76	-	-	-	200	-	-	-

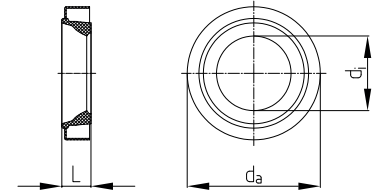
SHS SYSTEM

Enjeksiyon ve yıkama başlığı
grouting and flushing head



di x da x L [mm] [kg]

Conta (başlık başına 4 adet)
sealing (4 pcs. per head)

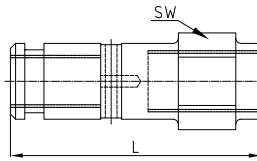


di x da x L [mm] [kg]

Tip / type Ø [mm]	Parametre / parameter	di x da x L [mm]	[kg]	di x da x L [mm]	[kg]
-	yıkama mili 61 flushing shaft 61	62 x 69 x 114	2,40	61 x 69 x 7	0,01
-	yıkama mili 75 flushing shaft 75	76 x 108 x 180	4,10	75 x 90 x 10	0,01
-	yıkama mili 100 flushing shaft 100	101 x 135 x 180	6,20	100 x 120 x 12	0,04

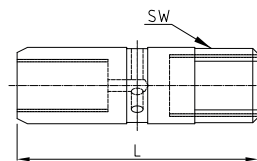
SHS SYSTEM

Yıkama mili 61
flushing shaft 61



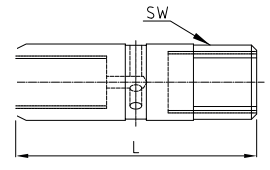
A** x L x SW [mm] [kg]

Yıkama mili 75
flushing shaft 75



A** x L x SW [mm] [kg]

Yıkama mili 100
flushing shaft 100



A** x L x SW [mm] [kg]

Tip / type Ø [mm]	Parametre / parameter	Diş boyutları / Filetage	[kg]	Diş boyutları / Filetage	[kg]	Diş boyutları / Filetage	[kg]
32	-	T 45 x 229 x 60	4,60	R 38 x 300 x 65	8,10	H 55 x 305 x 80	14,00
32	-	R 38 x 229 x 60	4,60	T 45 x 300 x 65	8,10	H 64 x 305 x 90	13,70
32	-	R 32 x 229 x 60	4,60	R 51 x 300 x 65	7,80	H 55 x 305 x 80	13,80
38	-	T 45 x 229 x 60	4,40	R 38 x 300 x 65	8,10	H 64 x 305 x 90	13,50
38	-	R 38 x 229 x 60	4,40	T 45 x 300 x 65	7,90	H 55 x 305 x 80	-
38	-	R 32 x 229 x 60	4,60	R 51 x 300 x 65	7,70	H 64 x 305 x 90	-
51	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-
76	-	-	-	-	-	-	-
76	-	-	-	-	-	-	-

** çekiş trafi, sola doğru yivli (isteğe göre sağa doğru yivli) / hammer site, left hand thread (right hand thread on request)

* 1", 1 1/2" ve 2" için yiv birleşimi mevcuttur / thread joint available for 1", 1 1/2" und 2"



Ginzling Yolu, Avusturya

Road Ginzling, Austria

İşveren:

Amt der Tiroler Landesregierung

İnşaat periyodu:

Ağustos 2010 - Temmuz 2011

Ana müteahhit:

Held & Francke Baugesellschaft mbH

Toplam metraj:

SHS H0360-32, 638 adet. / 2767 m, SHS H0800-51,
357 adet / 2980 m

İş kapsamı:

4 asma köprü ve 4 istinat duvarıyla yol genişletme. Mikro kazıklar üzerine inşa edilen mevcut „Zembach“ köprüsünün genişletilmesi. Eğimli kazı, kalıcı zemin çivili shotcrete duvar ve doğal taş kaplama ile yol genişletilmesi.

SHS SYSTEM GEOTEKNİK

SHS SYSTEM GEOTECHNICS

Owner:

Amt der Tiroler Landesregierung

Construction period:

August 2010 - July 2011

Main contractor:

Held & Francke Baugesellschaft mbH

Total quantity:

SHS H0360-32, 638 pcs. / 2767 lfm, SHS H0800-51,
357 pcs. / 2980 lfm

Scope of works:

Widening of road by means of four slope bridges and 4 retaining walls. Broadening of the existing „Zembach“ bridge, founded on micro piles. Widening of road by means of slope cuts, secured by shotcrete walls with permanent soil nails and natural stone cladding.



L233 Oberperferer Yolu, Avusturya

L233 Oberperferer road, Austria

SHS SYSTEM GEOTEKNİK

SHS SYSTEM GEOTECHNICS

İşveren:

Land Tirol, Landesstraßenverwaltung

Owner:

Land Tirol, Landesstraßenverwaltung

İnşaat periyodu:

Ağustos 2011 - Aralık 2012

Construction period:

August 2011 - December 2012

Ana müteahhit:

STRABAG AG, Direktion Af-Verkehrswegebau

Main contractor:

STRABAG AG, Direktion Af-Verkehrswegebau

Toplam metraj:

SHS H0500-38, 2500 m, SHS H0800-51, 9000 m

Total quantity:

SHS H0500-38, 2 500 lfm, SHS H0800-51, 9 000 lfm

İş kapsamı:

Oberperferer L 233 yolunun genişletilmesi.

Scope of works:

Widening of Oberperferer road L 233.



ÖBB, Lassnitzhöhe tren istasyonu, Avusturya SHS SYSTEM GEOTEKNİK

ÖBB, railway station Laßnitzhöhe, Austria

SHS SYSTEM GEOTECHNICS

İşveren:

ÖBB, Avusturya Demiryolları

Owner:

ÖBB, Railway Austria

Ana müteahhit:

Bauunternehmung Granit GmbH

Main contractor:

Bauunternehmung Granit GmbH

İnşaat periyodu:

2010 İlkbahar

Construction period:

Spring 2010

Toplam metraj:

20cm kalınlığında, 500m² donatılı shotcrete duvar.
SHS H0280-32, BL 260kN: 110 adet 8 m ve 20
adet 10 m uzunluğunda.

Total quantity:

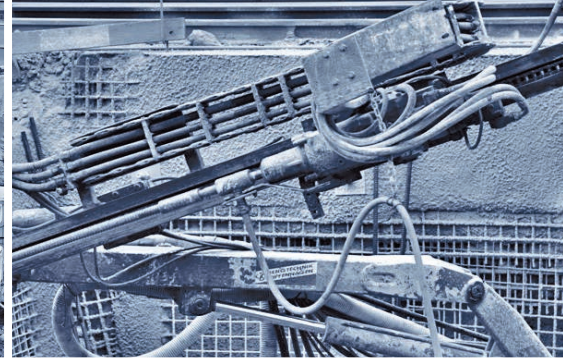
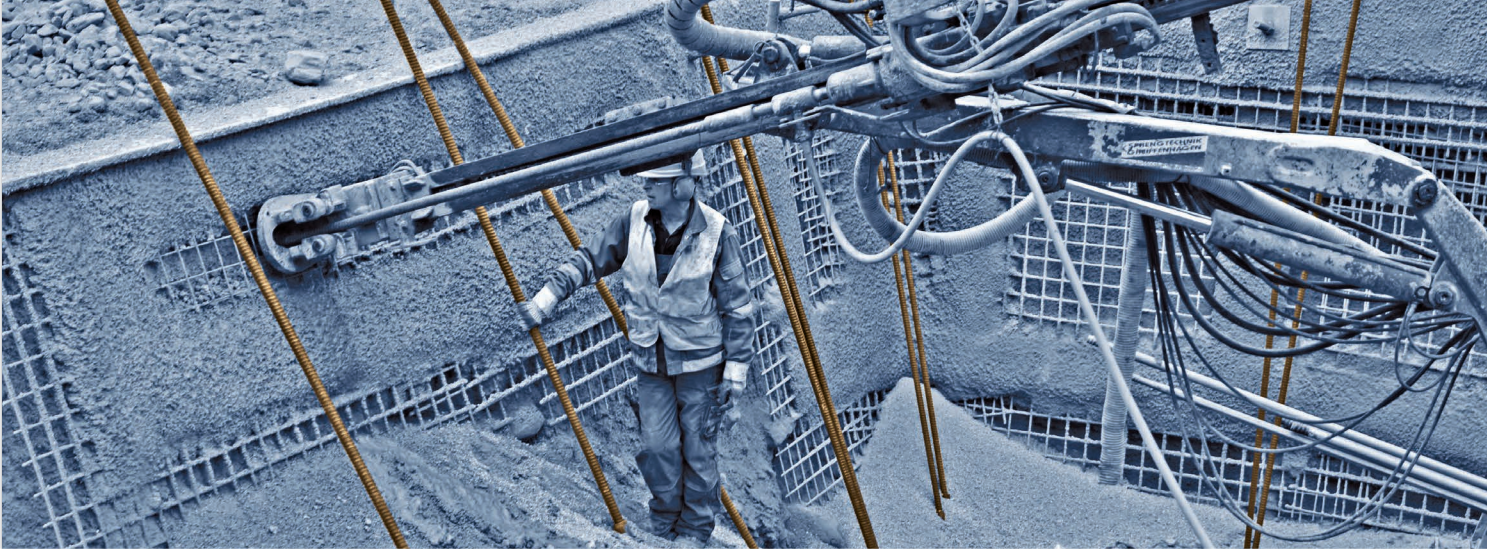
500 m² reinforced shot crete walls, 20 cm thick-
ness. SHS H0280-32, BL 260 KN: ca. 110 pcs. of 8
m and 20 pcs. of 10 m lenght.

İş kapsamı:

Yeni demiryolu altgeçidi inşaatı. Yeni alt geçit inşaatı sırasında geçici köprü yaklaşımlarında alınan önlemler şevlerin güvenliğini sağlamıştır. Güvensiz bölgeleri en azda tutabilmek için birçok kesitte yatay ve dikey olarak çalışılmıştır. Şaşırtmalı kazılan bölgeler ertesi günü koruma altına alınmıştır.

Scope of works:

Construction of a new railway underpass. The protective measure secured the slopes in the vicinity of the abutments of the temporary bridge during the construction of the new underpass. Work were carried out in several horizontal and vertical sections to minimize unsecured areas. This means that alternating blocks were excavated and secures on consecutive days.



ÖBB, Lend tren istasyonu, Avusturya

SHS SYSTEM

GEOTEKNİK

ÖBB, railway station Lend, Austria

SHS SYSTEM

GEOTECHNICS

İşveren:

ÖBB, Avusturya Demiryolları

Owner:

ÖBB, Railway Austria

Ana müteahhit:

GK-Construction GmbH

Main contractor:

GK-Construction GmbH

İnşaat periyodu:

Mart 2011

Construction period:

March 2011

Toplam metraj:

SHS H0280-32, 26 adet = 134 m / SHS H0500-38,
98 adet = 532 m

Total quantity:

SHS H0280-32, 26 pcs. = 134 lfm / SHS H0500-38,
98 pcs. = 532 lfm

İş kapsamı:

Geçici zemin çivili shotcrete ile güçlendirilmiş
harfiyat çukuru içinde, giriş tüneli dahil platformları
kapsayan, tren istasyonunun büyütülmesi.

Scope of works:

Upgrading of the railway station, in particu-
lar of platforms incl. access tunnel, con-
structed in an excavation pit protected by shot
crete (gunit) walls with temporary soil nails.

Akma dayanımı /
Kopma dayanımı
yield stress / ultimate stress

Tip-ø
type-ø

Akma yükü
yield load

Kopma
yükü
ultimate
load

Kesit alanı
cross section area

Ağırlık
weight

Uzama
elongation

Uygulama alanları
areas of application

[kN]

[kN]

[mm²]

[m/t]

[kg/m]

A_{gt}
[%]



Oyuklu Çubuk / hollow bar

Geoteknik
geotechnics

H0210-32	170	210	330	-	2,6
H0250-32	190	250	370	-	2,9
H0280-32	230	280	435	-	3,4
H0360-32	280	360	510	-	4,0
H0400-32	330	400	565	-	4,4
H0420-38	350	420	650	-	5,1



Tünel / madencilik
tunneling / mining

H0500-38	400	500	740	-	5,8	
H0635-51	530	630	930	-	7,3	5,0
H0800-51	630	800	1145	-	9,0	
H1000-64*	750	1000	1520	-	11,3	
H1200-64*	900	1200	1805	-	13,2	
H1380-76	1075	1380	2090	-	15,7	
H1600-76	1200	1600	2390	-	17,3	
H1900-76	1500	1900	2525	-	19,8	

Tüm boyut ve uygulamalar için aksesuarlar mevcuttur / accessories for all dimensions and applications available

Teknik değişikliğe tabidir / subject to technical changes

* istek üzerine mevcut / available on request

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