
Precision Built,
Future Assured.
PRODUCT CATALOGUE
DIORIT

DIORIT LTD. | Mario Vrdoljak | +385 95 535 2768 | mario.vrdoljak@diorit.biz | www.diorit.biz

Bosnia and Herzegovina
Tvornička 3
Orange Center
77210 Ilidža, Sarajevo
+385 95 535 2768
+387 33 265 135

Croatia
Stanka Vraza 5
35000 Slavonski Brod
+385 95 535 2768
+385 35 494 866

Montenegro
Marka Miljanova 30
81000 Podgorica
+385 95 535 2768

Serbia
Zmaj Jovina 6/3
11102 Beograd
+385 95 535 2768
+381 60 4169 555

Contents

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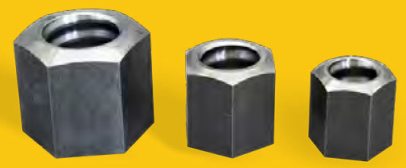


About Us

DIORIT d.o.o. was founded in 2011 and began its journey with a very strong and challenging slogan “building solutions together”. We are dedicated to providing quality services to the highest standards, mainly for the high-tech construction industry.

We are not limited to the domestic market, so we have completed very successful projects outside of Bosnia with our sister companies in other countries in the Balkan region. Our constant commitment to quality and customer satisfaction is the main driver of our success.

Through our regional offices, Diorit provides services in the sector of prestressed structures, prestressing works, and various system solutions for various uses in geotechnical projects, including threaded anchors in various qualities and diameters used in addition to geotechnical projects and in the structural construction of large buildings, bridge construction, tunnel construction, fastening of formwork, etc. In geotechnical projects, we can offer micropiles, self-drilling anchors, rope anchors and SN anchors. All these solutions are used to stabilize slopes. In bridge construction, Diorit offers bearings and transition devices. We can also offer drilling tools used in rock drilling, spare parts for surface drills, etc.

We have contributed to numerous projects, not only on the domestic market, but also in all countries in the Balkan region. Products manufactured by Diorit and its suppliers have been used for many years without any problems. In accordance with the Diorit approach to high product quality, everyone, from the lowest level of employees to management are committed to excellence. Customer satisfaction with high quality products and services is the highest priority for Diorit. To achieve this goal, we see our customers, suppliers and employees as our business partners and irreplaceable parts of our company. The backbone of the company is a dynamic team of people with proven experience in large projects, engineering and sales.

In the past 6-7 years, Diorit has been recognized by our partners as a very serious company.

Diorit is recognized as a company that can be trusted by domestic companies and large foreign companies operating in the Balkan region.

We achieved very serious cooperation in the construction of bridges, tunnels, slope protection, port construction and various hydrotechnical projects.

Production

Today, the Diorit group of companies has representative offices in Croatia, Bosnia and Herzegovina, Serbia and Montenegro, and we carry out our business all over the world. Together, with all our partners, we witnessed and are witnessing the development of projects that at the same time meant and mean the development of the countries themselves.

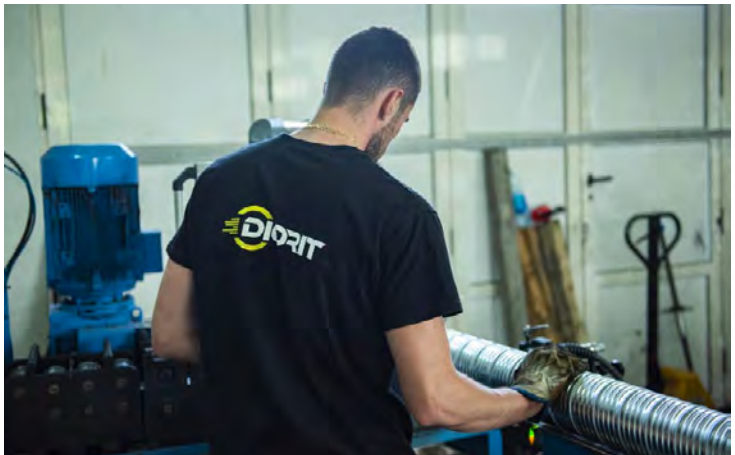
In Odžak, the border area of Bosnia and Herzegovina, we have modern production facilities for self-drilling IBO anchors R32, R38 and R51, SN anchors, threaded ribbed reinforcing bars with a diameter of 16-32 mm, a press for the production of metal plates, as well as a production line for precast pipe type for prestressing with a diameter of 40-135mm used in bridge construction.

The fact that we are reliable partners is also proven by Quality Certificates for the management system according to ISO 9001:2015, Certificates on the constancy of properties and factory production control, as well as Statements on product properties along with all other important technical control permits from authorized Institutes both in the country and in the world.

We in the Diorit group of companies understand that the work we do must be done as seriously as possible. That's why it's important to think ahead, plan carefully and work hard.

Our most valuable indicator of quality is educated and experienced employees. We are proud of the fact that until now, with practical and theoretical knowledge, they have participated in mosaics of projects worth hundreds of millions of euros. With respect for our mission and vision in mind, they are Diorit group of companies' leaders for new challenges around the world.

YOUR PROJECT'S STRONGEST LINK

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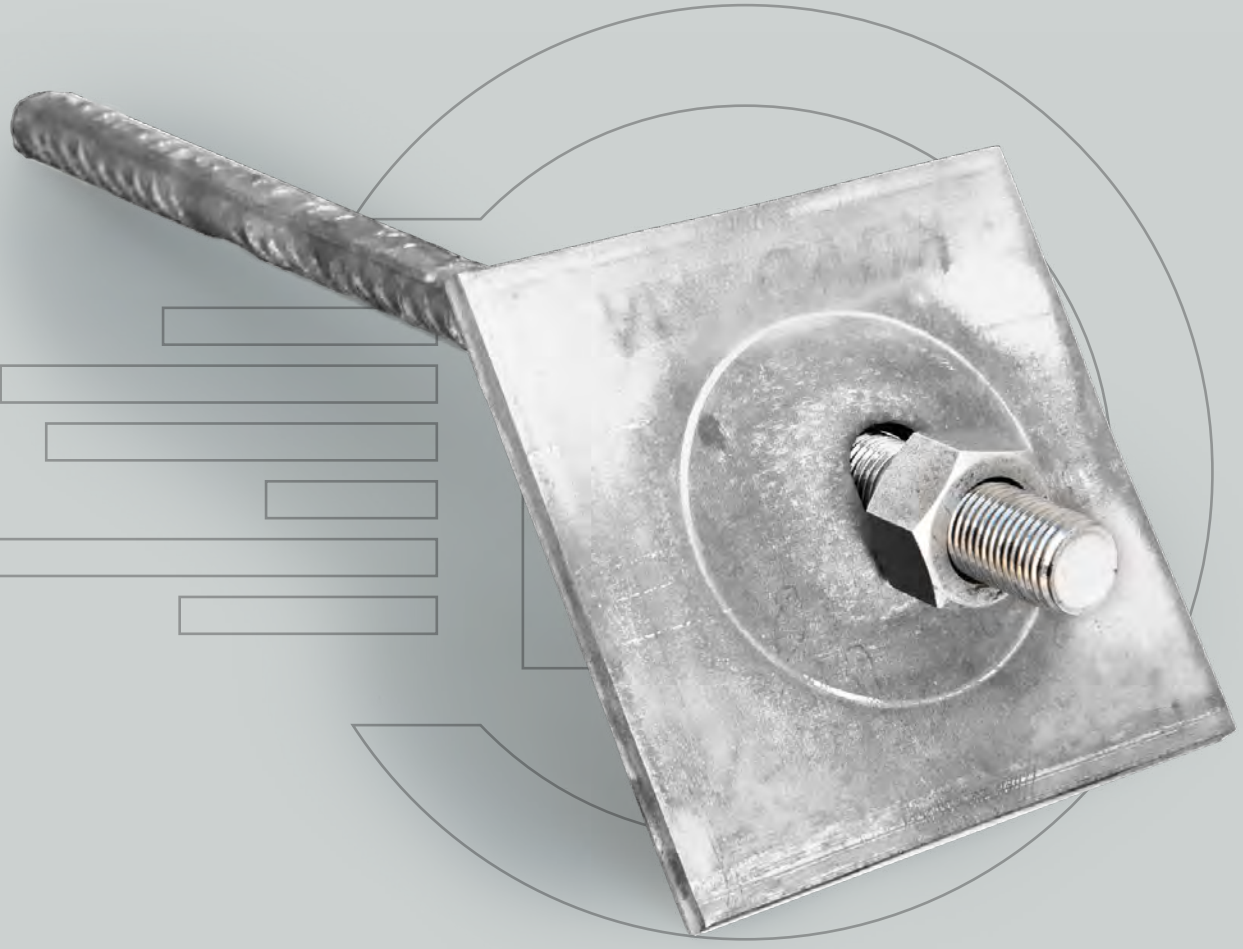
GEOTECHNICAL ANCHORS IN CONSTRUCTION

Soil&Nail SN Anchors



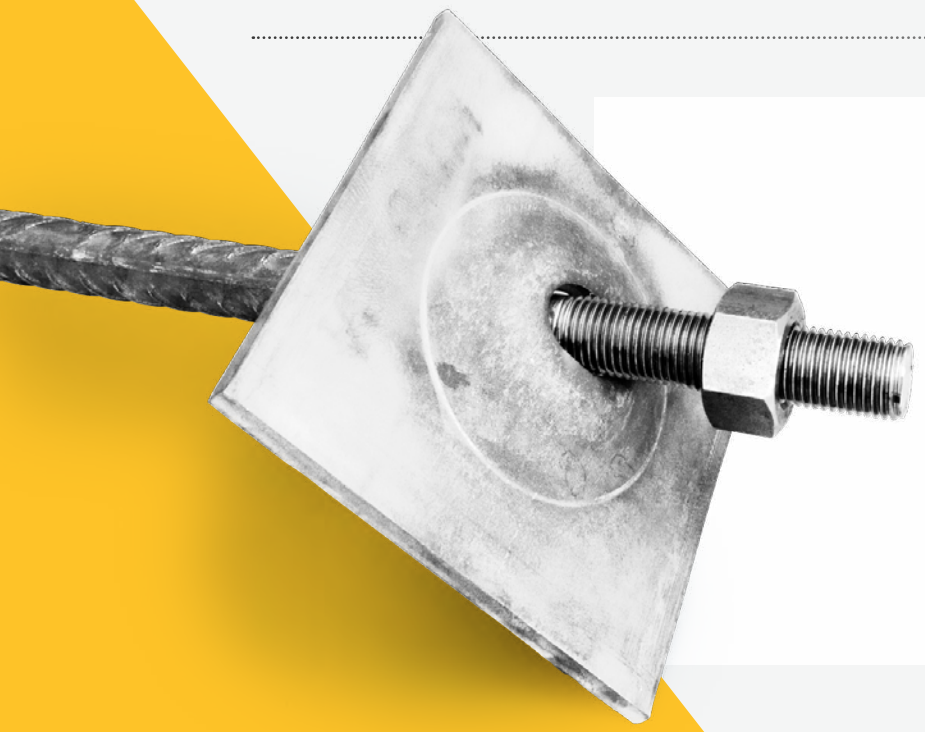
DIORIT PRODUCTION

Diorit Soil&Nail SN Passive Rod Anchor from Ribbed Reinforcing Bar

Diorit's SN-bar anchor uses a reinforcing bar as a load-bearing element, which has a metric thread on one side. SN rod anchors are used in more demanding, steeper terrains, and in the construction of tunnels.

It can be installed on earthy and rocky terrain (tunnels, slope stabilization, various fixings). Rock and soil anchoring is a construction technique used to increase and maintain the stability of a rock or soil mass. The installation of anchors as reinforcing elements increases the shear strength of the terrain. In this process, anchors are mainly subjected to tensile load.

The anchor rod is obtained when a suitable thread is cold-rolled on the reinforcing rod on one side of the ribbed reinforcing rod. The base plates are made from steel flat sheets (flat steel/flach). The hexagon nut is non-standard, with a standard metric thread, it is purpose-built in a CNC machine from hexagonal material.



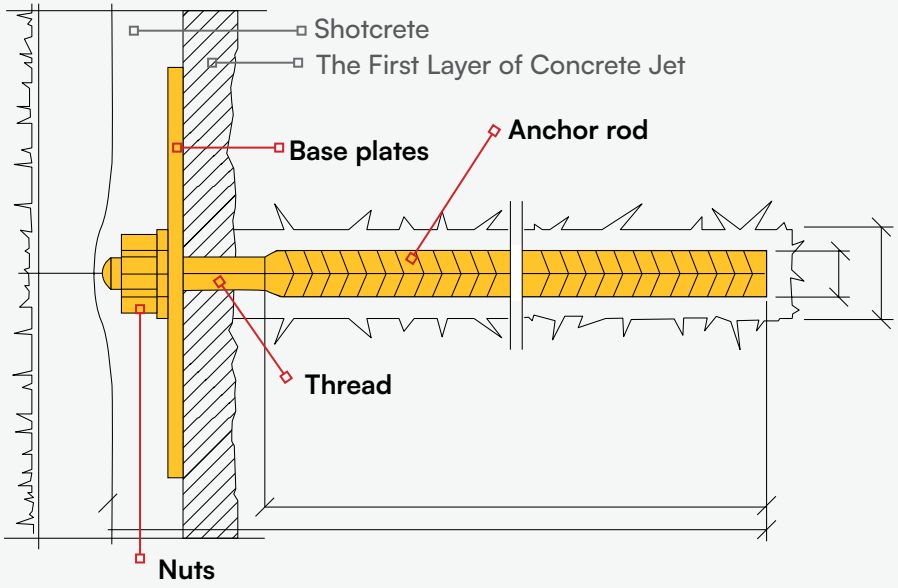
APPLICATION

The field of application of the rock and soil anchor system includes the following areas:

- **Slope protection**
- **Embankment protection**
- **Protection of construction pits**
- **Slope protection combined with nets**
- **Securing the tunnel and creating an open tunnel front.**

The rock and soil anchor system can be used in compact and loose soils and rocks.

ELEMENTS



The SN anchor consists of the following elements:

- → **Anchor rod**
  Reinforcing ribbed rod, different nominal diameter (eg 25, 28, 32 mm);
- → **Nuts**
  machined from hexagonal steel;
- → **Base plates**
  produced on a press from flat steel;
- → **Distancer** (centralizer)
  finished goods.

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TECHNICAL CHARACTERISTICS

	Dmm	Nut	Nominal tensile capacity Fm,nom k min	Force at the yield pointFp0,2 kN min	Re N/mm2 min	Rm N/mm 2 min	Plate mm	Spacer d*s mm
SN25	25	M25.65 x 3mm	250	220	500	540	150x150x10 200x200x10	32
SN28	28	M28.65 x 3mm	340	300	500	540	200x200x10 150x150x10	32
SN32	32	M33.18 x 3.5mm	470	420	500	540	200x200x12	40

LIFE SPAN

The SN anchors we produce are temporary solutions and solutions with an extended life span.

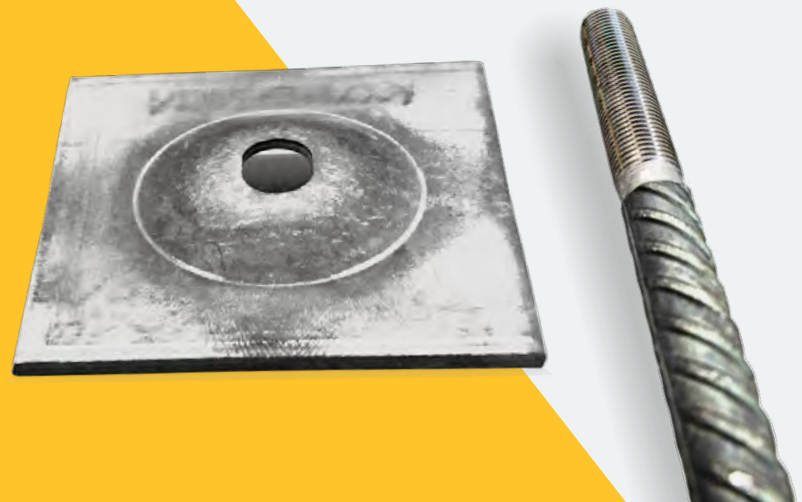
Depending on the required lifespan, the installation is carried out according to the instructions:

2 years

Anchors for **temporary** use, lifetime up to 2 years — no anti- corrosion protection required;

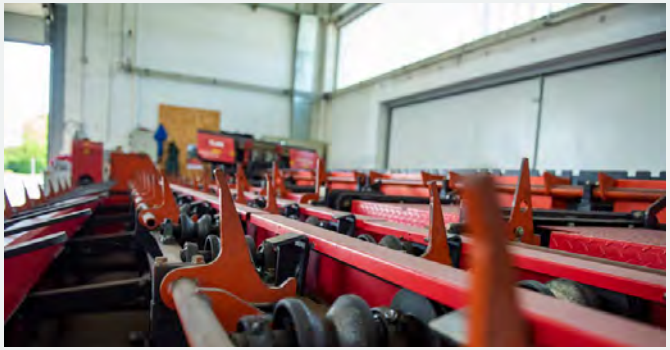
15 years

Anchors for **extended** use, service life up to 15 years — protection of the entire anchor with concrete is required.



INSTALLATION

When installing the anchor rod, a plastic spacer is used to properly center the anchor in the hole. The spacer is made of PVC material. Since the spacer is a lost commodity and remains whole in the concrete, only the dimensions are controlled. During the installation process, the embedded anchor has a protective layer of injection compound.



PERMANENT SN ANCHORS

The anchor is crucial for building durability and safety, requiring effective protection against corrosion. Metal corrodes when exposed to oxygen and water, emphasizing the need for clean bars or ropes before corrosion prevention. The anchor's exposed head is particularly vulnerable.
External parts undergo hot-dip galvanization (HGD) in the factory, an electrolytic process coating steel with zinc. This provides strong adhesion, resistance to abrasion during transport, and eliminates the need for further protection. Alternatively, epoxy preparations offer an additional layer of defense.
Diorit, in collaboration with partners, offers permanent SN rod anchors with a potential 100-year lifespan. Adhering to industry norms, including work performance, record-keeping, and mandatory tests, is essential. SN anchors, due to their durability, can be stored outdoors in covered areas or, when shielded from adverse weather conditions, in open spaces.

Diorit offers hot-dipped galvanized anchors (nuts and base plates included).

CERTIFICATES & ACCREDITATIONS

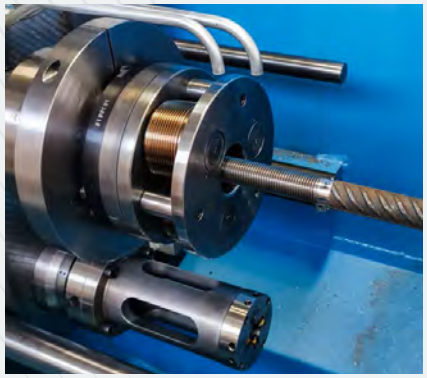
Diorit LTD. for its production of SN anchors has the most important certificates:
- **Certificate of Conformity(CoC)**, and
- **Declaration of Performance (DoP)**

We are accredited for the EU and the world through ZAG, i.e. the leading institute in the field of construction in Slovenia.

DIORIT

Diorit is Accredited for World Markets

PRODUCTION



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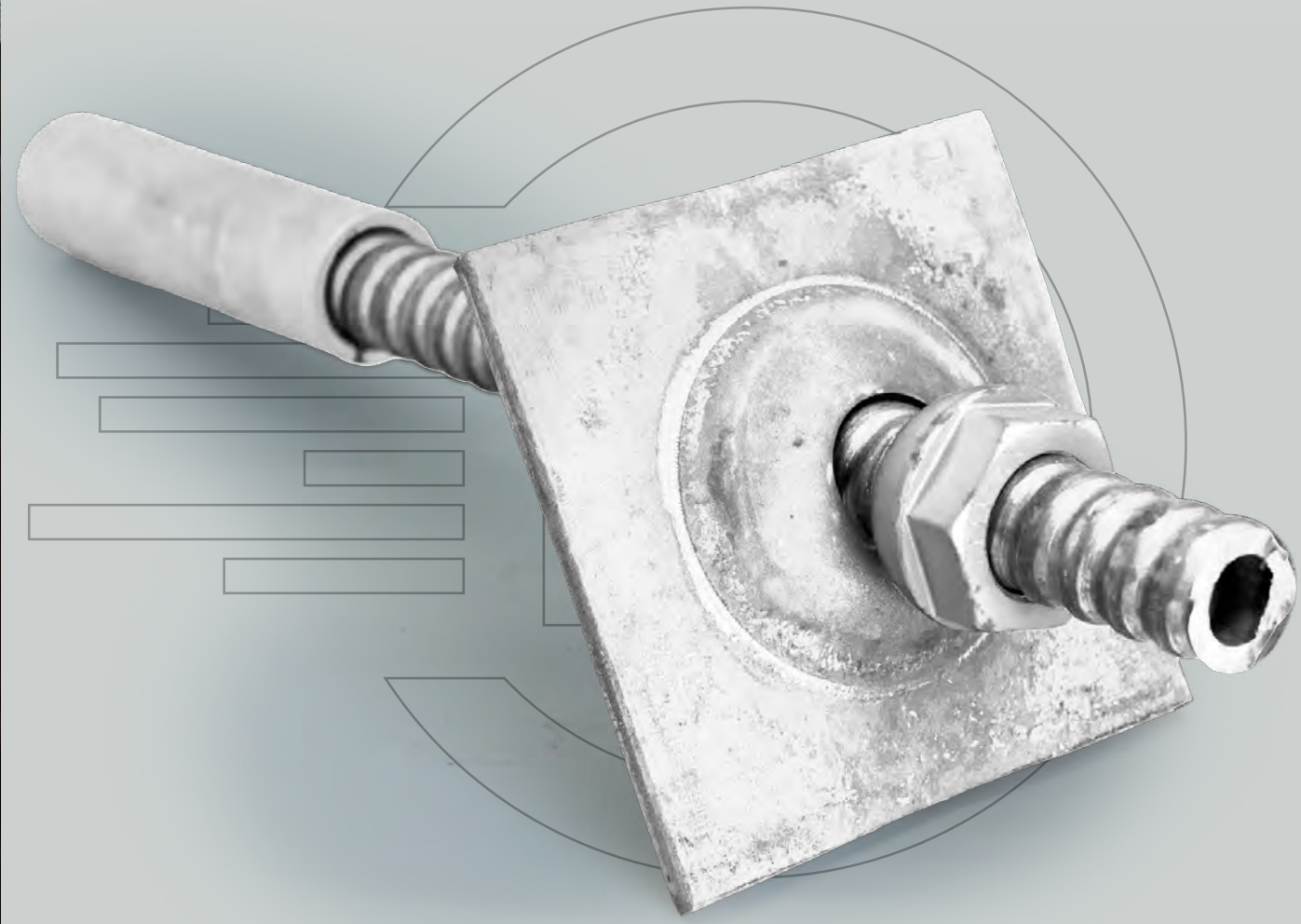
GEOTECHNICAL CIVIL ENGINEERING, TUNNELING AND MINING

Self-drilling SDA IBO Anchors



DIORIT PRODUCTION

Diorit IBO/SDA/SBS self-drilling anchors from hollow steel tubes

Anchoring systems are used in various ways in mining and tunnel construction and are used for temporary rehabilitation and protection of the sides or ceiling of the tunnel during its construction.

Geotechnical anchors represent a special element in the group of geotechnical constructions that strengthen the natural terrain behind the soil profile or protective structure in a special way. Anchors transfer the tensile force from the structure to the ground. The shear strength of the surrounding soil is used to transmit the tensile force.

Diorit d.o.o. has its own production of injection-bore/self-drilling anchors in the production facility in Odžak in Bosnia and Herzegovina. Self-drilling IBO-SDA (Self-drilling anchor) anchors are a special type of rod anchors.

The IBO-SDA rock and soil anchor system can be used in compact and loose soils and rocks. The advantages of self-drilling anchors are in the possible significant length of the execution, as well as avoiding the possibility of the well collapsing due to the extraction of the drill rod and the investment of the anchors in the classic procedures of the execution of the anchors, and the use in damaged rock masses.

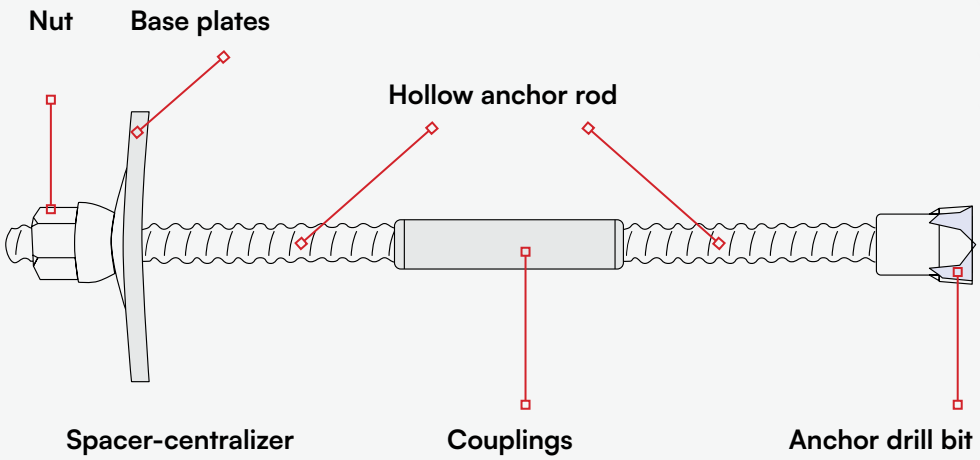
APPLICATION

The field of application of the rock and soil anchor system includes the following areas:

- **Slope protection**
- **Embankment protection**
- **Protection of construction pits**
- **Slope protection combined with nets**
- **Securing the tunnel and creating an open tunnel front.**

The rock and soil anchor system can be used in compact and loose soils and rocks.

ELEMENTS



Each anchor consists of the following elements:

- → **Hollow anchor rod** of appropriate outer and inner diameter (R32, R38, R51)
- → **Base plates** of suitable dimensions, — nuts: domed and hex (R32, R38, R51)
- → **Couplings** (R32, R38, R51)
- → **Spacer-centralizer** (R32, R38, R51)
- → **Anchor drill bit** - suitable disposable (R32, R38, R51)
- → **Nut**

TECHNICAL CHARACTERISTICS

TYPE		R32				R38		R51	
Thread	Unit	R32-250	R32-280	R32-280S	R32-360	R38-420	R38-500	R51-630	R51-800
OD	mm	31	31	32	31	38	38	50	50
ID	mm	19	17,5	21	14,5	22	18,5	33	29
S	mm2	370	435	-	510	640	740	930	1150
m	Kg/m	2,9	3,4	2,9	4	5	5,8	7,3	9
Fyk (0,2k)	kN	190	230	230	280	350	400	530	630
Ftk	kN	250	280	280	360	420	500	630	800

GENERAL INFORMATION

The IBO-SDA anchor rod is obtained when a round thread is machined on a steel pipe. This is done in a thread rolling machine. The shape of the thread is determined according to a strictly defined norm. Anchor elements are produced in sections of standard length (2, 3 or 4 m) and, if necessary, continue with appropriate connectors.

The base plates are made from steel flat sheets (flat steel/flach). The geometry of the base plates and the types of plates depend on the customer's requirements, and Diorit certainly offers a wide range of the aforementioned base plates in its production.

Couplings are non-standard goods, with a standardized round thread, they are specially produced by various machining procedures.

When installing the anchor rod, a plastic spacer is used to properly center the anchor in the hole. The spacer is made of PVC material. The spacer is considered as lost goods and remains intact in the concrete.

Planning, dimensioning, execution, testing and quality control for IBO-SDA anchors can only be carried out by companies with appropriate expertise, experience and technical personnel with appropriate training. Responsibilities for planning, dimensioning, execution, testing and quality control must be defined in the contract for the execution of the project. The manufacturer of the anchor components must ensure their compliance with the permit. The responsibility for the same lies with the permit holder.

Types of connectors

R32 **R38** **R51**

Spacers

Couplings

INSTALLATION

Diorit's IBO-SDA rod anchor uses a hollow rod with a continuous round thread as a passive load-bearing element. A steel tendon is a hollow steel rod with cold-rolled threads and therefore can be cut or joined at any desired point. IBO-SDA anchors are installed in rock or soil by drilling and grouting using a drill and a lost-disposable crown. During drilling, the hollow rod is also used for flushing the hole with water, air or cement mixture. Injecting the hole with cement mortar is done through the pipe and the crown and can be done after drilling the entire hole, or it can also be done simultaneously with drilling. By drilling the anchor of the appropriate length, the installation of the anchor was completed. The injection of the anchor is performed through the anchor itself, with the injection mixture coming out through the holes on the drilling head, until the injection mixture starts to come out at the mouth of the well.

AVAILABLE TYPES

Semi-permanent anchors

untreated, the rate of corrosion depends on the composition of the soil (service life up to 50 years)

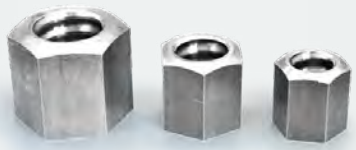
Semi-permanent anchors

hot-dip galvanized the rate of corrosion depends on the composition of the soil (service life up to 50 years)

Temporary anchors

(useful life up to 2 years)

In its production, with the help of its partners, Diorit is also able to offer permanent SDA anchors whose time use can be as long as the expected life of the project.



Nuts

Anchor bit selection

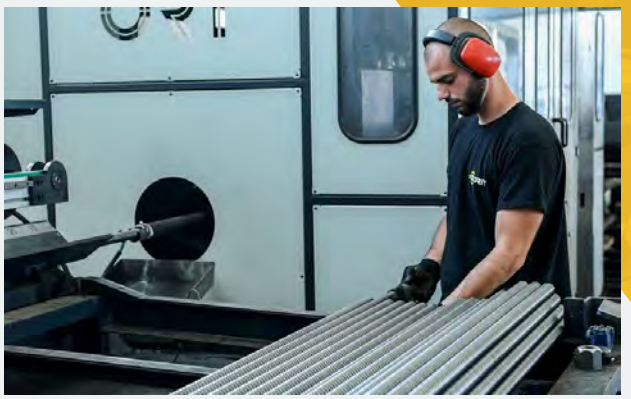
SDA-IBO anchor

CHARACTERISTICS

- Nationally approved system with internal and external quality control;
- Well adapted to transport and assembly conditions, delivered in parts with connectors;
- A wide selection of drill bits allows for use in different types of soil;
- It is easily adapted to the required length on the construction site, with different geological conditions using smaller parts with connectors;
- Excellent connection between anchor and cement mortar thanks to threaded ribs;
- It can be precisely adjusted to the required loads thanks to the wide radius range;
- High speed of construction, since drilling, installation and grouting are done in just one operation.

IBO-SDA rod anchors are used in more demanding, steeper terrains and in the construction of tunnels. It can be installed on earthy and rocky terrain (tunnels, slope stabilization, various fixings). Rock and soil anchoring is a construction technique used to increase and maintain the stability of a rock or soil mass. The installation of anchors as reinforcing elements increases the shear strength of the terrain. In this process, anchors are mainly subjected to tensile load.

PRODUCTION



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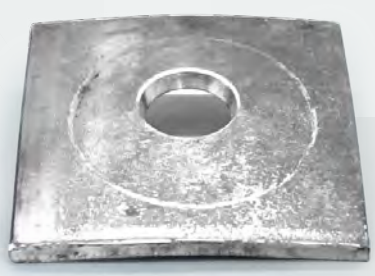

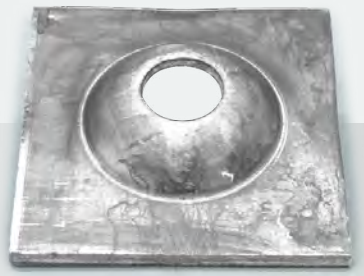

Base plates


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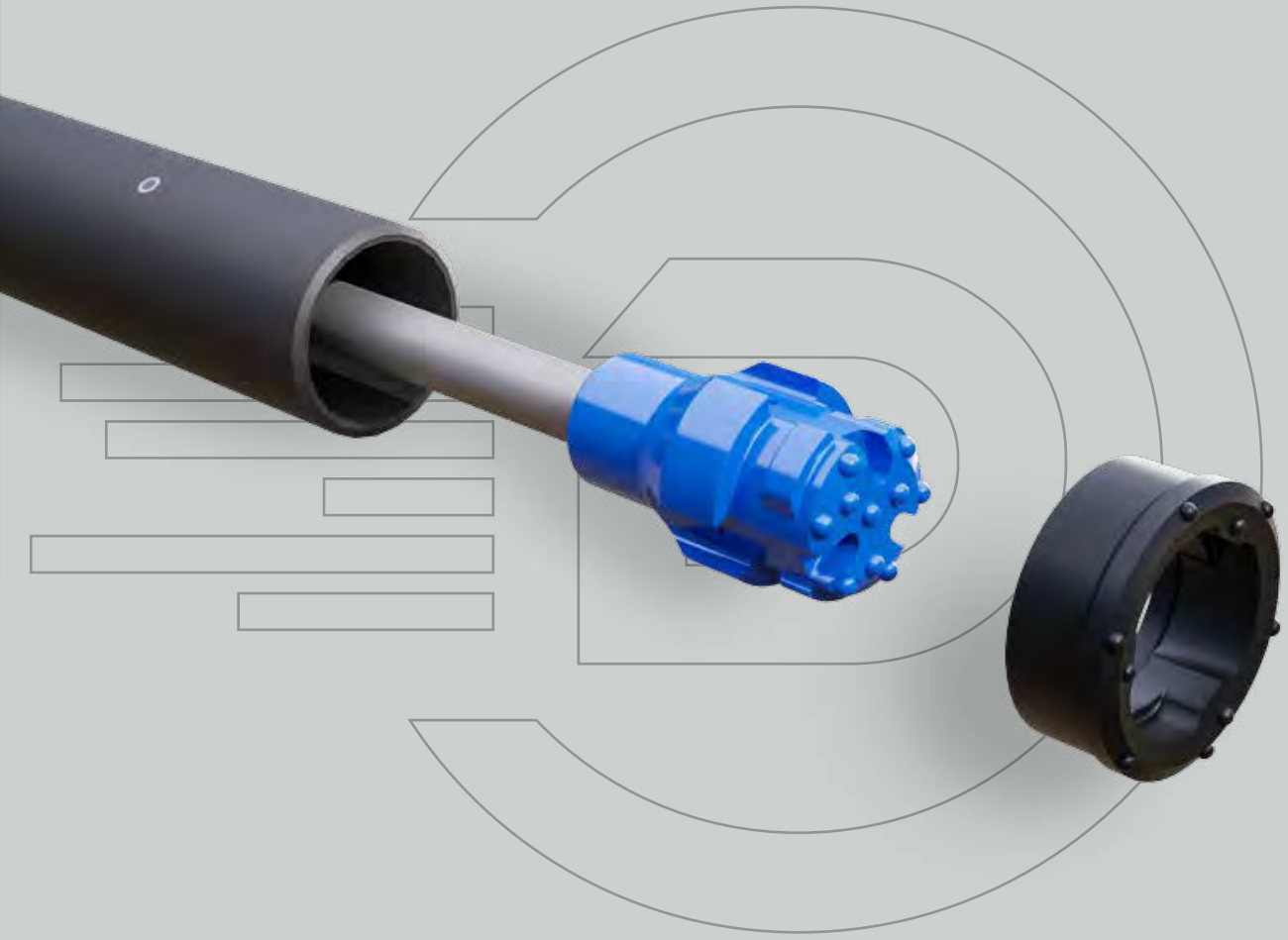
TUNNEL CONSTRUCTION

Forepoling/Piperoof Systems



DIORIT PRODUCTION

Piperoof/Forepoling umbrella system

Diorit offers a wide range of forepoling systems, also known as canopy tubes or tube umbrella systems.These solutions are designed to install canopy tubes in weak ground conditions using either top-hammer jumbos or DTH drill rigs.

Umbrella systems be installed using steel casings between 12 and 18 metres in length, interconnected using Diorit -designed threads that allow for fast, easy connections - saving you time and money.

Diorit's forepoling casing systems inject grout through the casing, thanks to an arrangement of staggered grouting valves in the casing itself. This allows for secondary support to be formed, increasing safety and stability in the working area before further excavation the tunnel, which is an essential requirement when drilling in sensitive ground conditions or overburden.

Forepoling bits and ring and also the pipe system are designed for the construction and drilling of tunnels in conditions of weak ground. Rings and bits are designed for mounting on both surface and deep hydraulic hammers. Rings and bits can be delivered with or without the pipes.

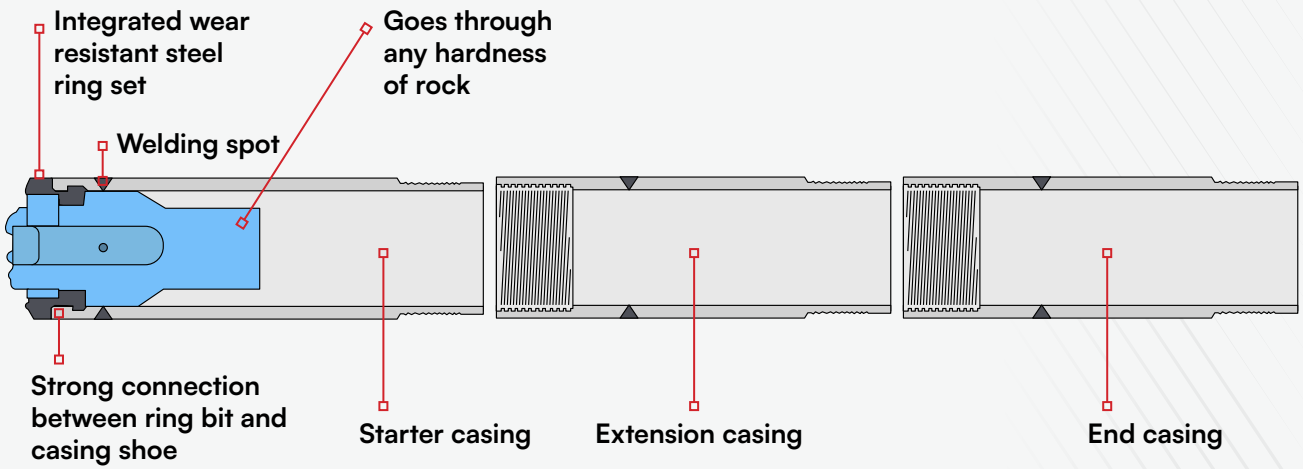
APPLICATION

The field of application of the Piperoof/Forepoling umbrella system includes the following areas:

- Tunneling construction method
- Ground improvement and dewatering
- Anchoring
- Micro piling
- Fiberglass face stabilisation
- Pipe jacking and ground freezing
- Underground mining roof support

System is designed for the construction and drilling of tunnels in conditions of weak ground

ELEMENTS



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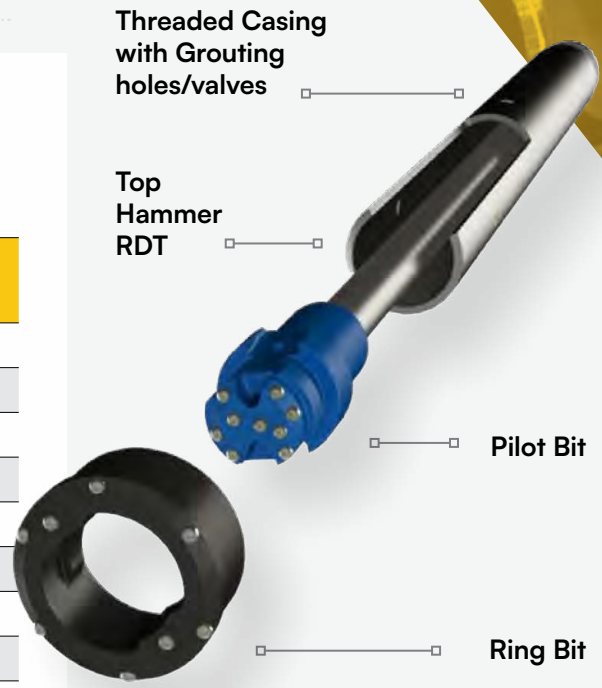


TECHNICAL CHARACTERISTICS

System is available from 76 to 219 mm casings and for all major DTH shanks and top hammer threads. Threaded casings normally come with 1 start but they are also available with 2-3 start trapezoidal threads and 10 mm entrance.

Product code	Casing OD		Max wall		Ring bit ID		Ring bit OD		Pilot bit OD		Pilot bit thread
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
F76-6-6.3-40	76.1	3.00”	6-6.3	0.31”	40	1.57”	82	3.23”	58	2.28”	R32
F89-6-6.3-52	88.9	3.5”	6-6.3	0.31”	52	2.05”	94.5	3.72”	70.9	2.79”	T38
F102-6-6.3-62	101.6	4.0”	6-6.3	0.31”	62	2.44”	106.6	4.20”	83	46447	T38
F114-6-6.3-70	114.3	4.5”	6-6.3	0.39”	70	2.76”	120	4.72”	92	3.62”	T38, T45
F140-8-94	139.7	5.5”	8	0.39”	94	3.70”	148	5.83”	116.7	4.59”	T45
F159-10-120	159	6.26”	10	0.39’	118	4.65”	179	7.05”	133	5.24”	T45, T51
F168-10-128	168.3	6.63”	12.7	0.5”	125	4.92”	189	7.44”	140	5.51”	T45, T51
F219-12.7-171	219.1	8.63”	12.7	0.5”	171	6.73”	243	9.57”	188	7.40”	T45, T51

MAIN FEATURES

The system is available from 76 to 219 mm, and for all main bit supports and threads on surface and deep hydraulic hammers. Pipe threads are available at 2-3 by 2-3 initial trapezoidal threads and 10 mm inlet. Different availability of threads enables accelerated installation of the pipe on-site system.

76-219 mm

System availability range

- Very high-quality integration of ring case and bit
- The ring housing is welded to the starter tube in production and is supplied as such
- The ring controls the guidance and operation of the bit
- Option — installation of valves in production (3-10 bar)

YOUR PROJECT'S STRONGEST LINK

KEY ADVANTAGES

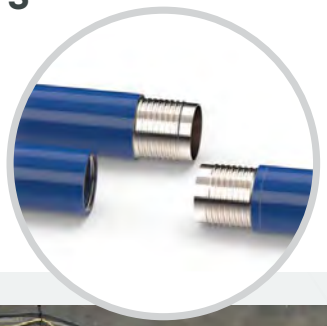
- Ideal and suitable for all ground conditions
- Unique flushing design reduces over-drilling
- Strong, reliable, and robust system to complete every hole
- Pilot to ring bit locking and unlocking is easy to use, fast, and reliable
- Customisability and flexibility

PILOT BIT AND RING SETS

Pilot bit part #	kg	Ring set part #	kg
FP76-6-6.3-40-R32	1.6	FR76-8-40-SET	1.5
FP89-6-6.3-52-T38	2.9	FR89-8-52-SET	1.8
FP102-6-6.3-62-T38	3.7	FR102-8-62-SET	1.9
FP114-6-6.3-70-T38	5.3	FR114-10-70-SET	2.6
FP114-6-6.3-70-T45	5.3	FR114-10-70-SET	2.6
FP140-8-94-T45	8.1	FR140-10-94-SET	3.7
FP159-10-120-T45	10.3	FR159-10-120-SET	4.1
FP168-10-128-T45	12.3	FR168-10-128-SET	4.8
FP219-12,7-171-T45	21.1	FR219-12,7-171-SET	8.9

MALE / FEMALE THREADS

Purpose-designed Diorit Male / Female threads are used for easy coupling, reducing time spent on threading casings. The inside diameter of the casing stays is designed to remain consistent throughout the connections.



Customisability and flexibility for:

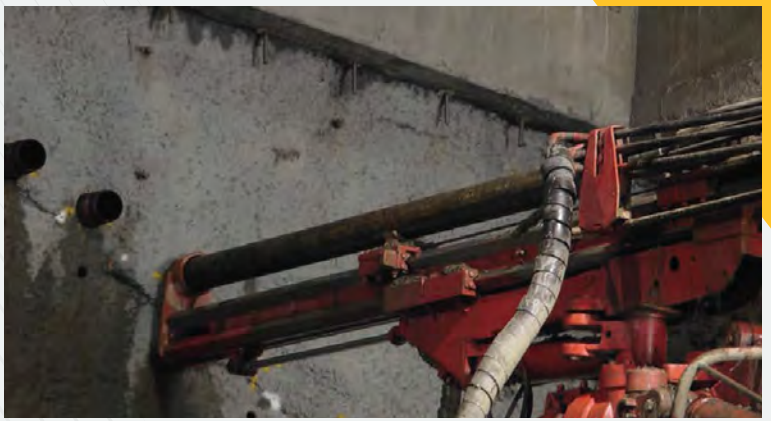
01 casing lengths

02 thread connections

03 grouting holes/valves

04 casing grade & casing wall

PRODUCTION



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GEOTECHNICAL CIVIL ENGINEERING, TUNNELING AND MINING

SAS systems

DIORIT

SAS rods for tunneling and mining

Anchoring systems are used in various ways in mining and tunnel construction and are used for temporary rehabilitation and protection of the sides or ceiling of the tunnel during its construction, and are also used in mining.

Depending on the construction system used, the geology of the surrounding rocks and the hydrological conditions underground, we offer various anchoring systems that meet the specific requirements of the project.

SAS tunneling and mining anchoring systems are available as threaded rods in grades SAS 450/700, SAS 500/550 (with DIBT approval), SAS 650/800, SAS 670/800 and as smooth rods in grades E 360/690-830 . A wide range of steel of different quality ensures technically and economically optimized construction systems.

In addition to the above in this area, we can provide different types of SN anchors from standard reinforcing bars and SDA (self-drilling) anchors for tunnel construction from our production.

The SDA anchor consists of three main components: the head, the steel rod — including the coupling and the disposable drill bit — and the injection body. The steel bar is hollow with a cold-rolled thread and therefore can be cut or joined at any desired point. We can offer SDA anchors from R32 mm — 210 kN to R51 mm — 800 kN maximum load.

APPLICATION

The field of application of the DCP permanent rod anchors includes the following areas:

- **Tunneling construction method**
- **Slope protection**
- **Underground mining roof support**

ELEMENTS

SAS expansion shell anchors are characterized by its easy handling and consist of the following components:

1) Anchor plate
2) Dome nut (alternatively: hexagonal nut)
3) SAS thread bar
4) SAS smooth bar
5) Expansion shell

YOUR PROJECT'S STRONGEST LINK

ADVANTAGES

- Fast, easy, approved and safe way of rock support
- SAS system are made of hot rolled threadbars with low internal stresses
- High strength grain refined material with high fracture toughness and high elongation for applications with special requirements under ground available
- Increasing the productivity by increasing anchor pattern using high capacity rock bolts
- Accessories run more easy and smoother on SAS thread profile than on metric threads
- Alignment of non perpendicular anchors by using the right accessories possible
- SAS expansion shell anchors are available in variable steel grades and diameters for special applications on customer‘s request
- Threadable ribs over entire length of the bar, which can be cut or spliced by couplers at any position
- Thread profile is resistant against rough handling
- Self-cleaning coarse thread profile
- Threadability of SAS thread profile persists at low bending without any weakening of material
- High fatigue resistance allow additional applications for dynamic impacts
- System regidity provides an easy installation even for overhead applications
- State of the art corrsosion protection systems available
- Individual length on customer‘s request available
- All SAS systems are manufactured and supervised according to our high quality requirements

SAS THREAD BAR OPTIONS

Our SAS systems feature high quality thread bars of various grades, up to prestressing steel quality, in a range of diameters from 12 to 75 mm. We provide various system solutions for a variety of technical engineering purposes, including thread bar anchors for mining and tunnelling, reinforcement connections, form ties, tie rods, soil nails, micropiles, rock and soil anchors for geotechnical applications as well as prestressing tendons for post-tensioning. Providing individualized solutions for specific customer requirements is a challenge we gladly accept.

YOUR PROJECT'S STRONGEST LINK

Yield Stress / Ultimate Stress Areas of application	Nom.-ø	Yield Load	Ultimate load	Cross section area	Weight		Elongation	
	[mm]	[kN]	[kN]	[mm²]	[m/to]	[kg/m]	A_{gt} [%]	A_{10} [%]
SAS 500 / 550 — grade 75								
 Reinforcing systems	12	57	62	113	1123,6	0,89	6	10
	14	77	85	154	826,4	1,21		
	16	100	110	201	632,9	1,58		
	20	160	175	314	404,9	2,47		
	25	245	270	491	259,7	3,85		
	28	310	340	616	207,0	4,83		
	32	405	440	804	158,5	6,31		
 Geotechnical systems	36	510	560	1020	125,2	7,99		
	40	630	690	1260	101,3	9,87		
	43	726	799	1452	87,7	11,40		
	50	980	1080	1960	64,9	15,40		
SAS 555 / 700 — grade 80	57,5	1441	1818	2597	49,1	20,38	5	---
SAS 555 / 700 — grade 80	63,5	1760	2215	3167	40,2	24,86	5	---
SAS 500 / 550 — grade 75	75	2209	2430	4418	28,8	34,68	5	---
	Alternative SAS 550 / 620 available							
SAS 450 / 700 — grade 60								
 Mining	16	93	145	207	617,3	1,62		(A_5) 15
	25	220	345	491	259,7	3,85		(A_5) 20
SAS 650 / 800 — grade 90								
Mining	22	247	304	380	335,6	2,98		(A_5) 18
	25	319	393	491	259,7	3,85		
	28	400	493	616	207,0	4,83		
	30	460	565	707	180,2	5,55		

SAS 670 / 800 — grade 97								
 Geotechnical systems	18	170	204	254	500,0	2,00	5	10
	22	255	304	380	335,6	2,98		
	25	329	393	491	259,7	3,85		
	28	413	493	616	207,0	4,83		
 Tunneling & mining	30	474	565	707	180,2	5,55		
	35	645	770	962	132,5	7,55		
	43	973	1162	1452	87,7	11,40		
	50	1315	1570	1963	64,9	15,40		
 High-strength reinforcement	57,5	1740	2077	2597	49,1	20,38		---
	63,5	2122	2534	3167	40,2	24,86		---
	75	2960	3535	4418	28,8	34,68		---
SAS 950 / 1050 — grade 150								
 Post-tensioning systems	18	230	255	241	510,2	1,96	5	7
	26,5	525	580	551	223,2	4,48		
	32	760	845	804	153,1	6,53		
	36	960	1070	1020	120,9	8,27		
 Geotechnical systems	40	1190	1320	1257	97,9	10,21		
	47	1650	1820	1735	70,9	14,10		
SAS 835 / 1035 — grade 150								
 Geotechnical systems	57	2155	2671	2581	47,7	20,95	4	---
	65	2780	3447	3331	36,9	27,10		---
	75	3690	4572	4418	27,9	35,90		---
SAS 900 / 1100 FA — grade 160 FA								
 Formwork ties	15	159	195	177	694,4	1,44	3	7
	20	283	345	314	390,6	2,56		
	26,5	495	606	551	223,2	4,48	2	
SAS 900 / 1050 FC — grade 150 FC								
 Formwork ties	15	159	186	177	694,4	1,44	3	7
	20	283	330	314	390,6	2,56		
SAS 950 / 1050 E - grade 150	26,5	525	580	551	223,2	4,48	5	7
SAS 750 / 875 FS — cold rolled — grade 120 FS								
 Formwork ties	12,5	90	120	132,5	961,5	1,04	2	5,5
	15	142	165	189	675,7	1,48		
	20	245	285	326	390,6	2,56		

Accessories for all dimensions and applications available


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GEOTECHNICAL CIVIL ENGINEERING, TUNNELING AND MINING

DCP Permanent Rod Anchors

DIORIT

DCP permanent rod anchors (Double Corrosion Protection)

Double Corrosion Protection (DCP) anchors/anchors are injected with a corrugated jacket and with controlled crack widths for permanent use. They are mainly used in high-rise construction for heavy reinforcement, stabilization of slopes, deep excavations and retaining walls.

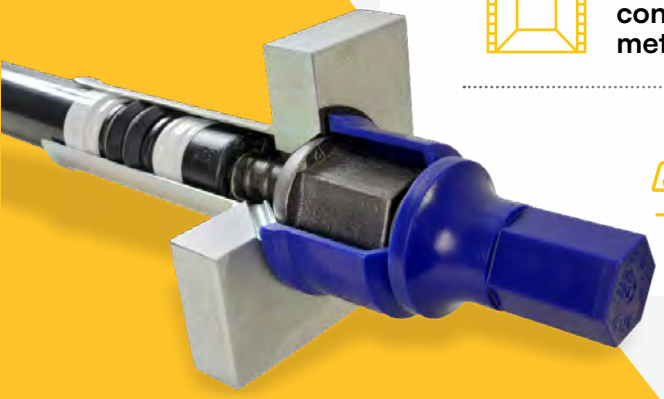
DCP permanent rod anchors (Double Corrosion Protection) or ANP — SAS permanent screw anchors come in quality 500/550; S670/800; 950/1050 (for diameters Ø 18, 22, 25, 28, 30, 35, 43, 50, 57.5, 63.5 and 75 mm).

Permanent anchor systems have a lifespan of over 100 years. Compared to standard steels, these permanent anchors have far greater strength and durability. Permanent DCP rod anchors must comply with the EN 1537 standard.

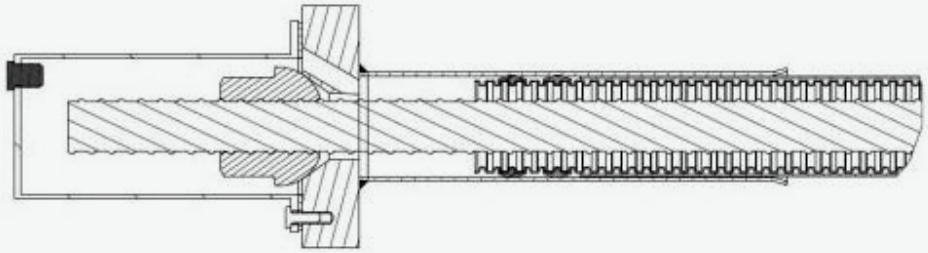
APPLICATION

The field of application of the DCP permanent rod anchors includes the following areas:

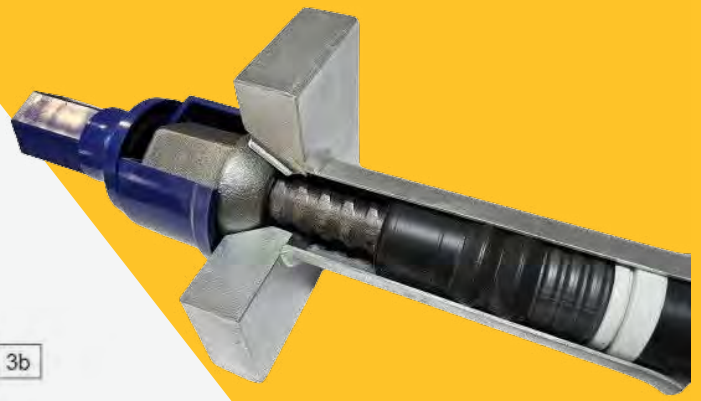
- **Tunneling construction method**
- **Slope protection**
- **Underground mining roof support**

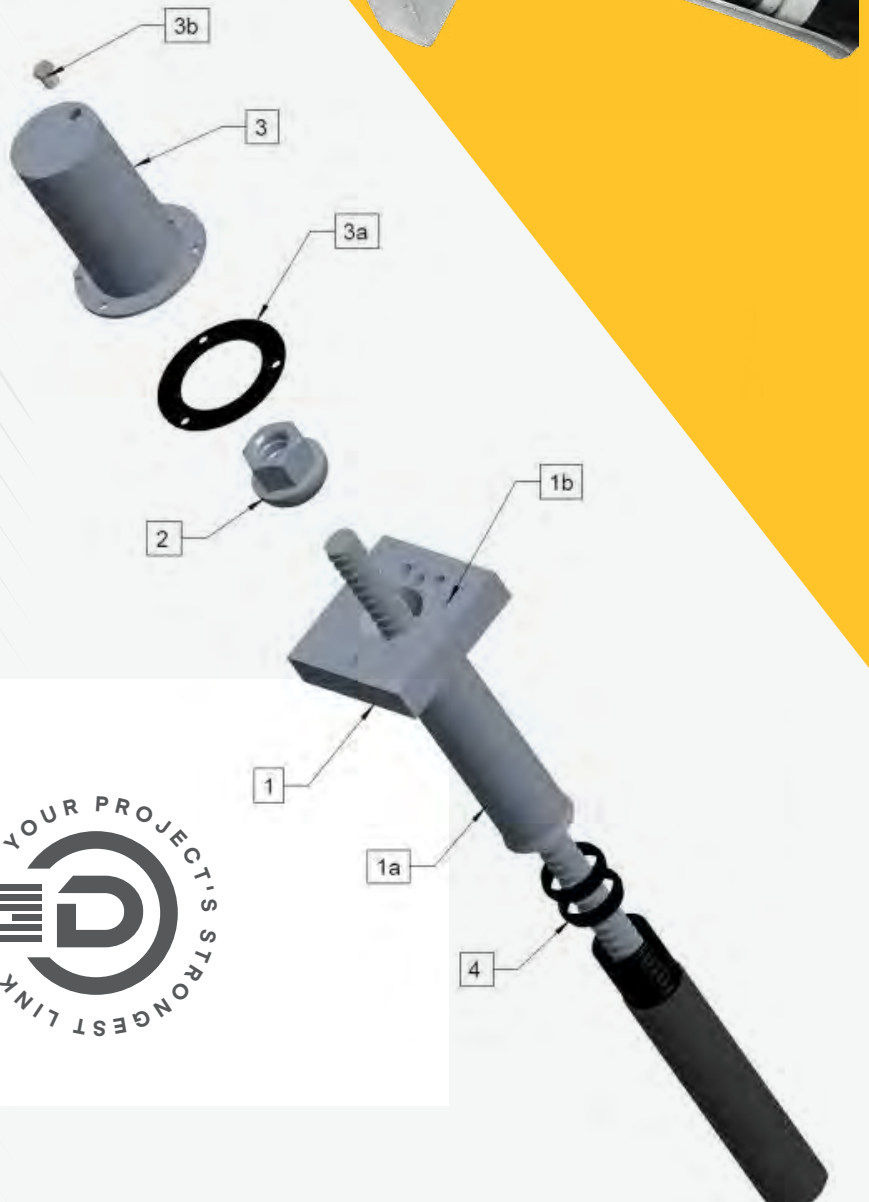


ELEMENTS



Nr.	Description
1	Anchor plate 210/210/50 L. 058mm with cone 55° S355 galvanized
1a	Sealing tube 0101.6x2.9 L=300mm welded
1b	Optional: 1x 014mm for interior and 2x014mm for exterior space
2	Domed nut 55° SW70x85mm
3	Plastic cap PE-HD for 43TR, 36WR, 40WR
For	Screw socket for P5006-110
3b	Flat gasket for P5006-110 0135/105mm, d=3.0 mm
3c	Seal 93x10mm for P5006-110
4	Profile ring 43-50 (2pcs)





PERMANENT DCP ANCHOR

- Threaded rod quality 500/550; S670/800; 950/105 (for diameters Ø 18, 22, 25, 28, 30, 35, 43, 50, 57.5, 63.5 and 75 mm);
- Anchor head with plate and nut;
- Cement injection mass;
- Protective PVC corrugated pipe-sheath along the entire length of the anchor;
- Auxiliary accessories: internal spacers, cables, end caps, heat-shrink covers, grout pipes, screws, connectors, rings...

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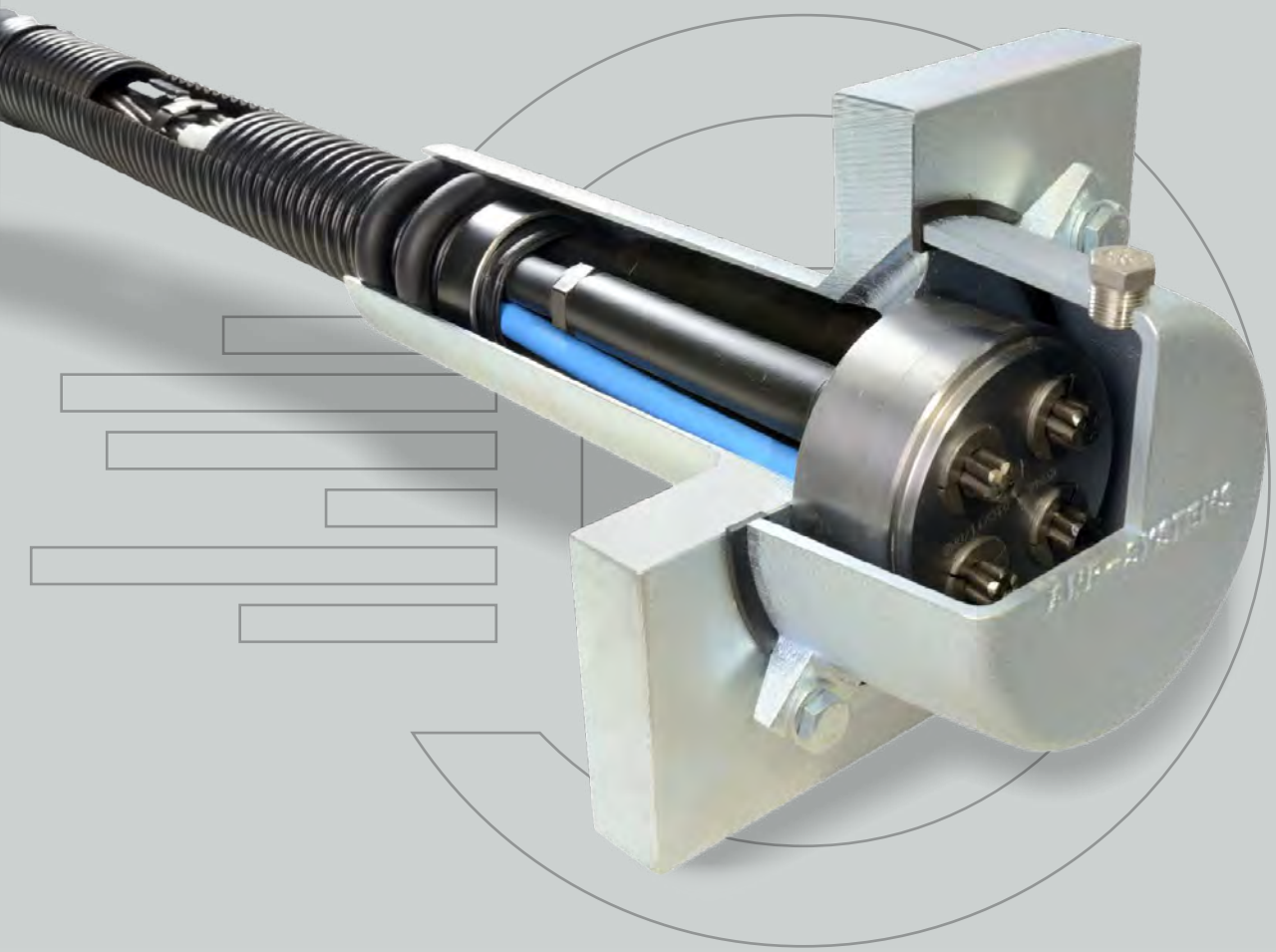
GEOTECHNICAL SYSTEM AND CONSTRUCTION

Strand anchors



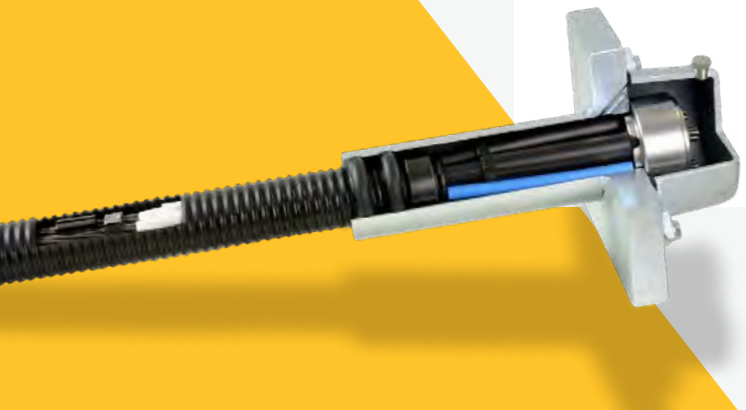
DIORIT

Strand anchors

Geotechnical anchors represent a special element in the group of geotechnical constructions that strengthen the natural terrain behind the soil profile or protective structure in a special way. Anchors transfer the tensile force from the structure to the ground. The shear strength of the surrounding soil is used to transmit the tensile force.

Today, the most important prestressed anchors are the ones with linear force transmission from the anchorage to the ground which also have a clearly defined anchor section. Such an anchor represents a geostatic element that is an integral part of the object-anchor-soil assembly, within which there are very complex states of stress and deformation.

Strand anchors consist of three main components: the anchor head, the steel tendon — divided into the binding part and the free length — and the injection body. The steel tendon is made of several 7-strand prestressed ropes.



APPLICATION

The field of application of the Strand anchors includes the following areas:

- **Tunneling construction method**
- **Slope protection**
- **Underground mining roof support**

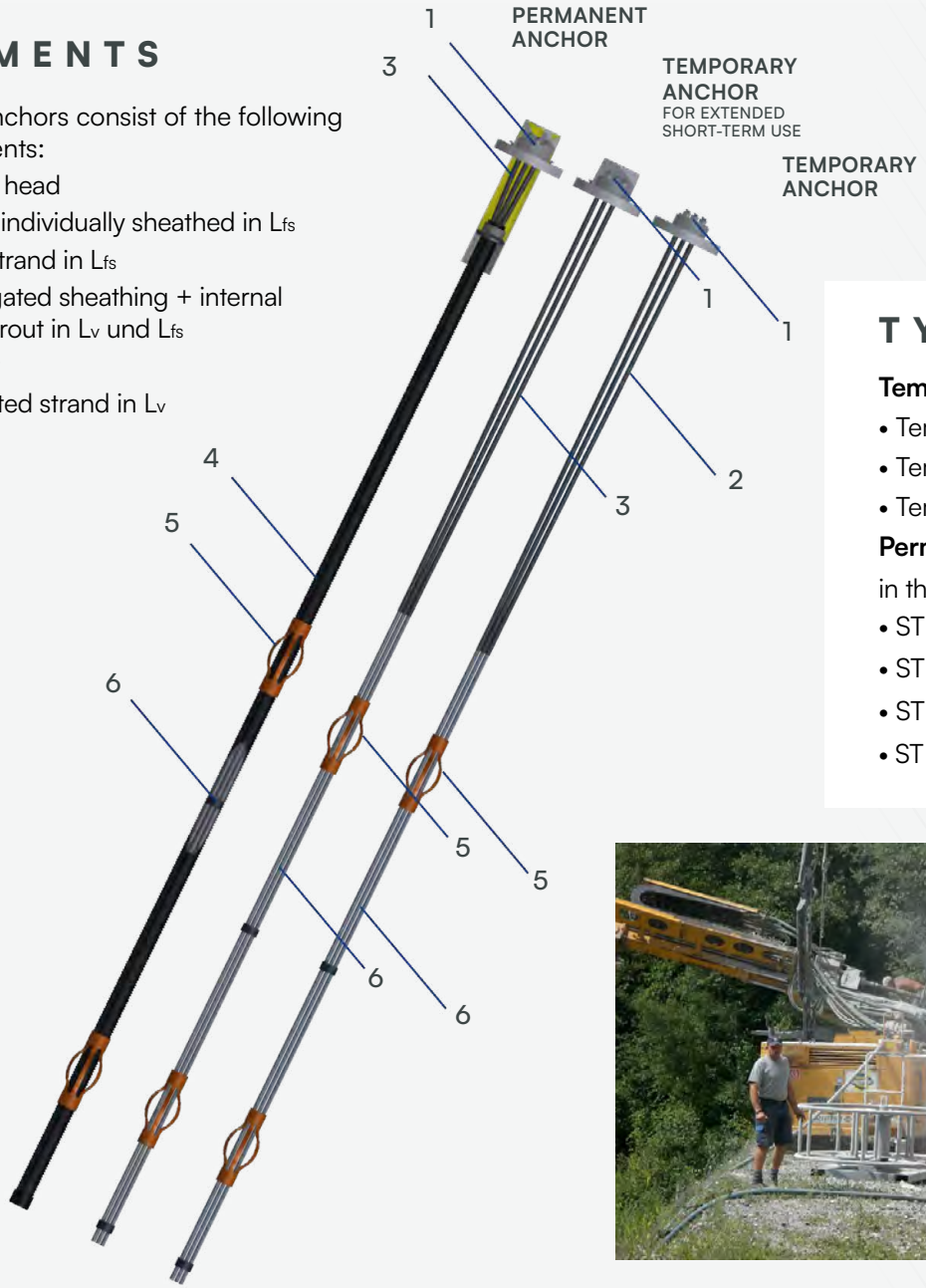
CHARACTERISTICS

- Nationally approved system with internal and external quality control.
- It can be adjusted to the required loads by selecting the number of ropes, the cross-section of the ropes and the quality of the steel.
- Longer anchor lengths can be produced without joints.
- Relatively low dead weight and small diameter.
- Ease of installation thanks to the high flexibility of the anchor.
- Efficient transport due to the small space required for transport and storage (anchors are supplied on a reel).

ELEMENTS

Strand anchors consist of the following components:

1) Anchor head
2) Strand individually sheathed in L_{fs}
3) Monostrand in L_{fs}
4) Corrugated sheathing + internal cement grout in L_v und L_{fs}
5) Spacer
6) Untreated strand in L_v



TYPES AVAILABLE

Temporary anchors

- Temporary anchors (service life up to 2 years)
- Temporary anchors for extended short-term use (service life 2-7 years)
- Temporary anchors with removable free length

Permanent anchors (service life up to 100 years)

in the steel grades (see tables for loads)

- ST 1570/1770 0.60“ (140 mm²)
- ST 1570/1770 0.62“ (150 mm²)
- ST 1670/1860 0.60“ (140 mm²)
- ST 1670/1860 0.62“ (150 mm²)

TECHNICAL DATA

Number of strands	Y1770 S7 - 15,3 mm F =248 kN, F =218 kN, S =140 mm²		
	Ultimate strength F_{pk} [kN]	Yield strength 0,1% $R=F_{p0,1k}$ [kN]	Design resistance $R=F_{p0,1k}$ /1,15* [kN]
2	496	436	379
3	744	654	569
4	992	872	758
5	1240	1090	948
6	1488	1308	1137
7	1736	1526	1327
8	1984	1744	1517
9	2232	1962	1706
10	2480	2180	1896
11	2728	2398	2058
12	2976	2616	2275
13	3224	2834	2464
14	3472	3052	2654
15	3720	3270	2843
16	3968	3488	3033
17	4216	3706	3223
18	4464	3924	3412
19	4712	4142	3602

Number of strands	Y1860 S7 - 15,3 mm F =260 kN, F =229 kN, S =140 mm²		
	Ultimate strength F_{pk} [kN]	Yield strength 0,1% $R=F_{p0,1k}$ [kN]	Design resistance $R=F_{p0,1k}$ /1,15* [kN]
2	520	458	389
3	780	687	597
4	1040	916	797
5	1300	1145	996
6	1560	1374	1195
7	1820	1603	1394
8	2080	1832	1593
9	2340	2061	1792
10	2600	2290	1991
11	2860	2519	2190
12	3120	2748	2390
13	3380	2977	2589
14	3640	3206	2788
15	3900	3435	2987
16	4160	3664	3186
17	4420	3893	3385
18	4680	4122	3584
19	4940	4351	3783

YOUR PROJECT'S STRONGEST LINK

Number of strands	Y1770 S7 - 15,7 mm F =266 kN, F =234 kN, S =150 mm²		
	Ultimate strength F_{pk} [kN]	Yield strength 0,1% $R=F_{p0,1k}$ [kN]	Design resistance $R=F_{p0,1k}/1,15^*$ [kN]
2	532	468	407
3	798	702	610
4	1064	936	814
5	1330	1170	1017
6	1596	1404	1221
7	1862	1638	1424
8	2128	1872	1628
9	2394	2106	1831
10	2660	2340	2035
11	2926	2574	2238
12	3192	2808	2442
13	3458	3042	2645
14	3724	3276	2849
15	3990	3510	3052
16	4256	3744	3256
17	4522	3978	3459
18	4788	4212	3663
19	5054	4446	3866

Number of strands	Y1860 S7 - 15,7 mm F =279 kN, F =246 kN, S =150 mm²		
	Ultimate strength F_{pk} [kN]	Yield strength 0,1% $R=F_{p0,1k}$ [kN]	Design resistance $R=F_{p0,1k}/1,15^*$ [kN]
2	558	492	389
3	837	738	597
4	1116	984	797
5	1395	1230	996
6	1674	1476	1195
7	1953	1722	1394
8	2232	1968	1593
9	2511	2214	1792
10	2790	2460	1991
11	3069	2706	2190
12	3348	2952	2390
13	3627	3198	2589
14	3906	3444	2788
15	4185	3690	2987
16	4464	3936	3186
17	4743	4182	3385
18	5022	4428	3584
19	5301	4674	3783

For inquiries and individual advice we are at your disposal.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TUNNEL CONSTRUCTION

Lattice girders for tunnels

DIORIT

Lattice girders for tunnel construction

The radius of the bending is tailor-made to meet each project's demands. The construction of the tunnel represents a demanding interdisciplinary construction procedure, very specific construction materials and products.

The lattice girder can provide immediate support for tunneling environments. Lattice tunnel substructures are made of ribbed concrete steel of quality B500B with three or four load-bearing longitudinal bars that are connected by spatial diagonals by suitable welding. One tunnel arch is made of several segments (most often five), and the connection is realized with screws or pipes.

With help of our partners we can manufacture all types of lattice tunnel substructures according to all customer specifications and designs.

Grid tunnel substructures have been tested and successfully installed in many tunnels in Bosnia and Herzegovina and in the region.

In addition to its own quality control, for the territory of Bosnia and Herzegovina, Diorit d.o.o. leads the institutional control of steel products at the Metallurgical Institute "Kemal Kapetanović" in Zenica, and for the territory of the Republic of Croatia at the Institute of Civil Engineering of the Republic of Croatia, with which it has long-term contracts. We are constantly working on improving the quality of its products.

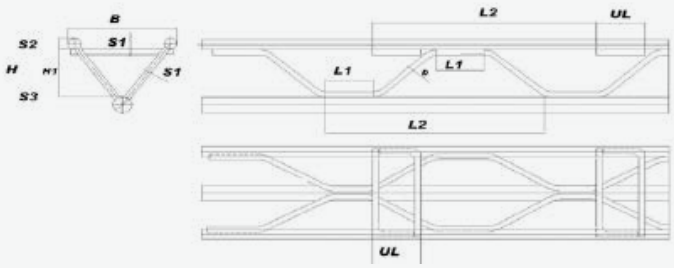
It uses modern technologies, modern machinery and new construction materials to provide its customers with high-quality and relatively low investment construction costs.

APPLICATION

The field of application of lattice girders:

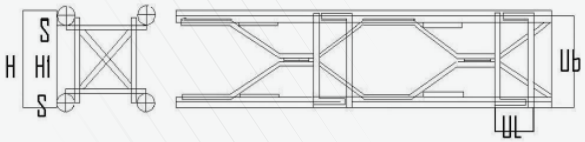
Tunnel construction

LATTICE WITH 3 BEARING BARS



TIP	S1	S2	S3	G	H	B	e	A f	Jx	Wx	Jy	Wy
H1	mm	mm	mm	kg/m	mm	mm	cm	cm2	cm4	cm3	cm4	cm
50	10	26	18	.10	94	100	.4.82	.10.4	138	29	89	18
		30	20	.12.3	100		.5.03	.13.35	193	38	106	21
70	10	26	18	.10.2	114	140	.5.79	.10.4	223	39	192	27
		30	20	.12.5	120		.5.97	.13.35	306	51	232	33
		32	22	.14.3	124		.6.31	.15.64	375	60	272	39
		34	26	.17.5	130		.7.09	.19.7	501	71	356	51
95	10	26	18	.10.7	139	180	.7.01	.10.4	359	51	337	37
		26	20	.11.7	141		.7.69	.11.59	405	53	406	45
		30	20	.13.5	145		.7.14	.13.35	485	66	407	45
		32	22	.14.9	149		.7.53	.15.64	589	78	482	54
		34	26	.18.2	155		.8.44	.19.7	774	92	641	71
115	12	26	18	.11.7	159	220	.7.99	.10.4	491	61	521	47
		30	20	.14.1	165		.8.09	.13.35	658	78	634	58
		32	22	.15.9	169		.8.50	.15.64	795	94	752	68
		34	26	.19.2	175		.9.52	.19.7	1040	109	1010	92
130	12	26	18	.11.7	174	220	.8.72	.10.4	603	69	521	47
		30	20	.14.1	180		.8.79	.13.35	805	87	634	58
		32	22	.15.9	184		.9.23	.15.64	971	105	752	68
		34	26	.19.2	190		.10.33	.19.7	1264	122	1010	92

LATTICE WITH 4 BEARING BARS



Tip	D	S	G	mm	mm	Af	Jx	Wx	Jy	Wy
H1	mm	mm	kg/m			cm2	cm4	cm3	cm4	cm3
100	10	18	.11.33	136	100	.10.20	356	52	173	35
		20	13.21	140		.12.56	456	65	204	41
		22	15.22	144		.15.20	570	79	234	47
		26	.19.98	152		.21.24	851	112	299	59
		30	.25.53	160		.28.28	1210	151	302	72
140	10	18	.11.72	176	140	.10.20	637	72	381	54
		20	13.60	180		.12.56	807	90	456	65
		22	.15.64	184		15.20	1002	109	534	76
		26	.20.40	192		.21.24	1472	153	699	100
		30	.25.92	200		.28.28	2059	206	871	124
180	10	18	.12.67	216	180	.10.20	999	93	670	74
		20	14.55	220		.12.56	1260	115	807	90
		22	.16.59	224		.15.20	1555	139	953	106
		26	.21.35	232		21.24	2262	195	1268	141
		30	.26.87	240		.28.28	3133	261	1606	178

The daily capacity of the plant is between 15 and 25 tons, depending on the complexity of the performance and the size of the series.

KEY ADVANTAGES

- quick installation with the participation of a small number of people;
- there is no need to invest in special equipment;
- acts as a current ceiling support over the excavated section;
- acts as a template, providing a minimum layer of shotcrete;
- saving in material, time and money.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BRIDGE CONSTRUCTION

PC strand-cables for prestressing

DIORIT

PC strand-cables for prestressing

Diorit post-tensioning systems offer innovative products and systems for the construction industry. Prestressed concrete cables are used mostly in post-tensioned and prestressed prestressing projects. Smooth steel rope/PC strand is most commonly used as prestressing steel.

PC steel strand, the full name prestressed concrete steel strand, is a high-strength steel cable or steel wire commonly used in construction projects. PC strands are a key component in prestressed and post-tensioned concrete structures. They provide the necessary tensile strength to strengthen concrete members and improve their performance.

Prestressing rope/PC strand is mainly used for project improvement, but also for nuclear power plants and similar works.

Galvanized steel ropes/PC strand are most often used in bridge rods, cables and in external prestressing works. Epoxy coated steel wire rope is similar to galvanized prestressed steel wire rope. We have all the Certificates for PC strand and wires according to the EN 10138-3 / 10138-1 standard.

We can offer 9.3mm, 12.5mm, 15.2mm, 15.7mm Prestressed Concrete Rope / 7mm Prestressed Concrete Wire.

APPLICATION

The field of application of PC strand-cables for prestressing:

Bridges and Viaducts

Buildings

Diorit can offer following options:

Prestressed Concrete Rope
9.3mm

Prestressed Concrete Rope
12.5mm

Prestressed Concrete Rope
15.2mm

Prestressed Concrete Rope
15.7mm

Prestressed Concrete Wire
7mm

The main function of PC strands is to introduce pre-calculated tensile forces in concrete members to offset the compressive stresses generated when loads are applied to the structure. This prestressing technology enables concrete structures to better resist external loads, such as live loads, dead loads, and seismic forces, thereby increasing the structure's strength, and durability, and reducing cracking.

In prestressed concrete construction, the PC strands are typically stretched to a predetermined tension level before the concrete is poured. Once the concrete has cured and hardened around the strands, releasing the tension in the strands will create compressive forces on the concrete, effectively balancing the loads the structure is expected to bear over its lifetime.

In post-tensioned concrete construction, PC strands are introduced after the concrete elements have hardened. They are anchored at one end and then tensioned, effectively prestressing the concrete elements. This method is particularly suitable for larger concrete structures. Where prestressing prior to pouring the concrete is impractical.

YOUR PROJECT'S STRONGEST LINK


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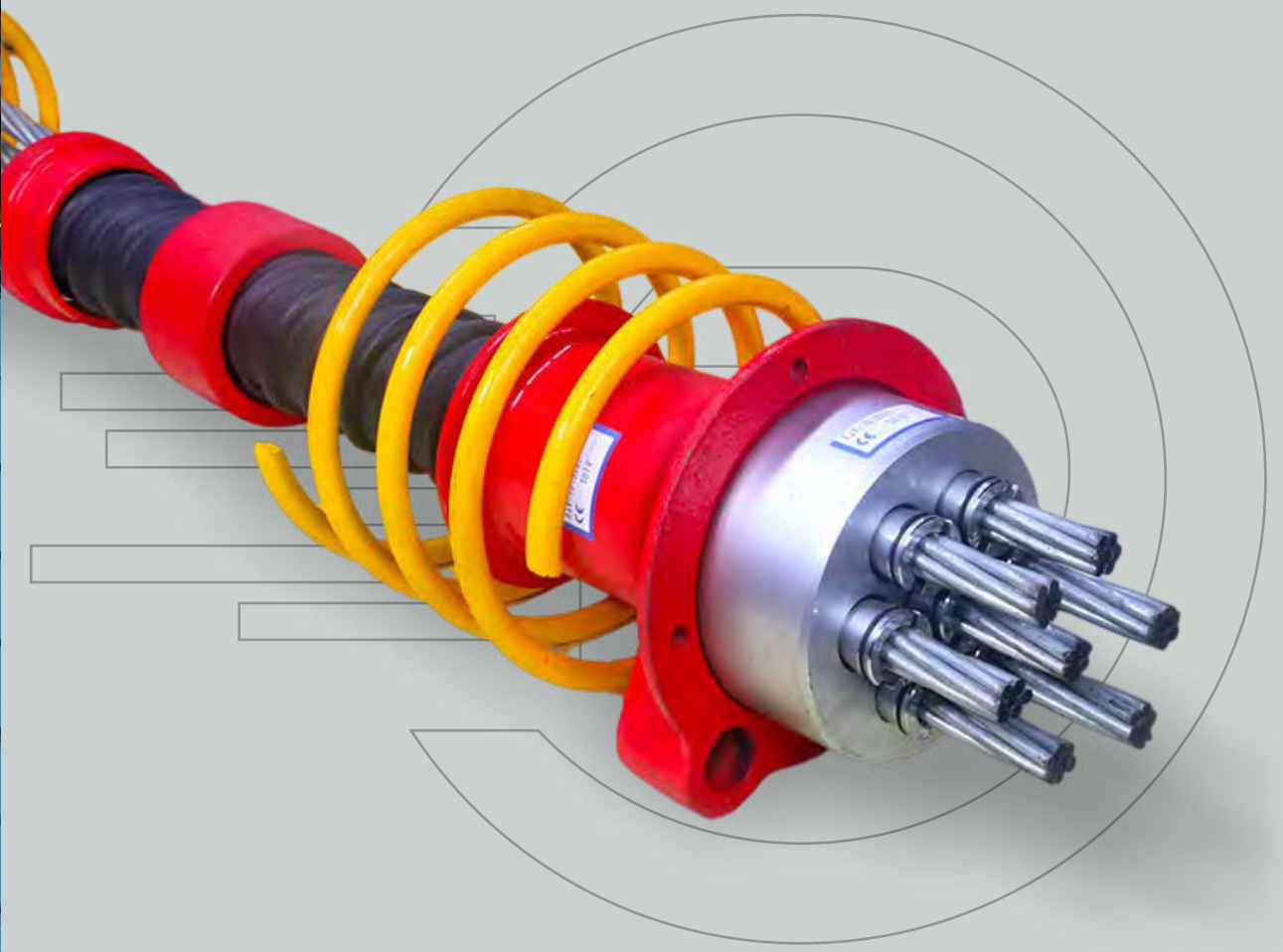
BRIDGE CONSTRUCTION

OVM Post-tensioning System



DIORIT

OVM Post-tensioning System

OVM is a leading manufacturer and a specialist contractor in China and worldwide in the field of prestressing and other specialized construction techniques. OVM System works successfully on challenging projects, including bridges, buildings, tunnels, ports, dams and nuclear power plants.

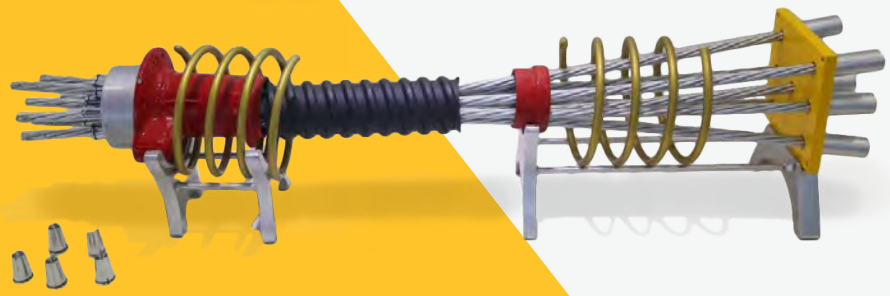
OVM designs their systems and manufactures them in their own factory in China, which allows them to apply a strict quality control system to their products throughout the manufacturing process. In this way, OVM has positioned itself as a leading preload supplier, with a strong reputation for high quality and reliability.
With more than 40 years of experience in the field, OVM has developed into one of the leading manufacturers and specialized contractors in China. OVM's ownership structure is integrated into various projects, from bridges to nuclear power plants. On a strategic level, OVM constantly invests in research and development to stay at the forefront of the industry and continuously provides more efficient and effective solutions for clients around the world. The production program includes prestressing systems, cable systems, construction solutions, bearings and expansion joints and monitoring systems. The entire product range is certified in accordance with ISO9001-2008 and meets the requirements of standards established by international organizations, including: — ETAG 013, AASHTO LRFD, BS, ASTM, JIS, etc.

APPLICATION

The field of application of the Post-tensioning System::

Bridges and Viaducts

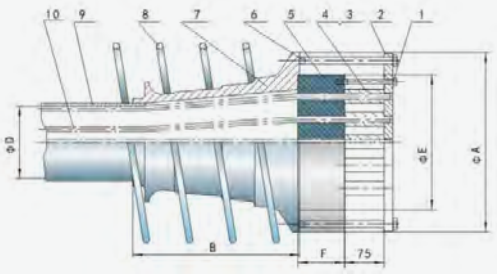
Buildings



PRE-TENSION SYSTEM

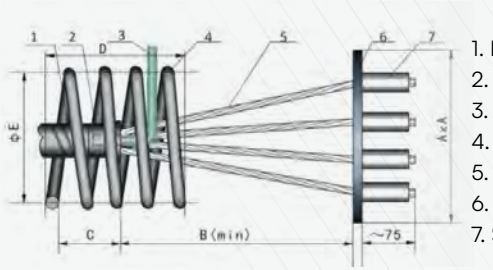
OVM invests part of its annual turnover in technical research and development in order to remain an industry leader. The company owns a national technology center and postdoctoral research workstation and maintains close relationships with numerous universities and institutions throughout China; this leads to OVM registering many technical patents.
The company focuses on the development of superior prestressing technology, building a renowned brand in the field of construction. As the largest supplier in China, OVM has a wide range of prestressing systems including but not limited to: prestressing systems, cable systems (MS & PWS cables) and construction solutions (incremental launch, turning and heavy lifting).
The excellence of OVM products is confirmed and certified by ISO9001- 2008, Quality Management System by BSI and CQC. In addition, our products meet all major standards such as AASHTO, ASTM, BS, EN, ETA, FIP, GB, JIS and PTI. Moreover, OVM conducts extensive testing with international independent testing organizations to further improve its products on a technical level.

ANCHORAGES FOR EXTENSION-TEACHING



1. Bolt1
2. Plate
3. Swaged end
4. Spring
5. Anchor head
6. Bolt2
7. Bearing plate
8. Spiral reinforcement
9. Duct
10. Strand

FIXED ANCHORAGE



1. Duct
2. Restraining ring
3. Grout tube
4. Spiral reinforcement
5. Strand
6. Anchor plate
7. Swaged end

YOUR PROJECT'S STRONGEST LINK

PRE-LOADING — BRIDGES

Post-tensioning (PT) is a dynamic technology that enables economical construction of high-quality bridges. PT can be adapted to be implemented in different terrain conditions and bridge lengths. Prestressed bridges have a high degree of internal durability, can be constructed relatively quickly, have a lower risk of cracking, have a smaller construction depth and have low maintenance costs.
In addition, these bridges can be built without disturbing the relief beneath the bridge — allowing for longer spans (~ 92m) and shallower girders. Better ductility, seismic performance and aesthetics are common benefits of using prestressing.

PRE-STRESSING — BUILDINGS

Prestressing is a solution that can be integrated into different types of buildings, from residential buildings to hotels. PT in buildings leads to greater flexibility in design and requires less reinforcing steel than conventional methods to achieve the same strength levels. Prestressed concrete drastically reduces floor-to-floor height compared to structural steel, thereby reducing facade, HVAC, electrical, plumbing and vertical transportation system costs, resulting in significant savings.
Integral, prestressed buildings have superior structural integrity compared to precast concrete structures, have better crack control, have lower overall building mass, and have faster floor construction cycles—all without sacrificing building aesthetics.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BRIDGE CONSTRUCTION

Pre-type Protection Tubes

DIORIT PRODUCTION

Pre-type protection tube for prestressing

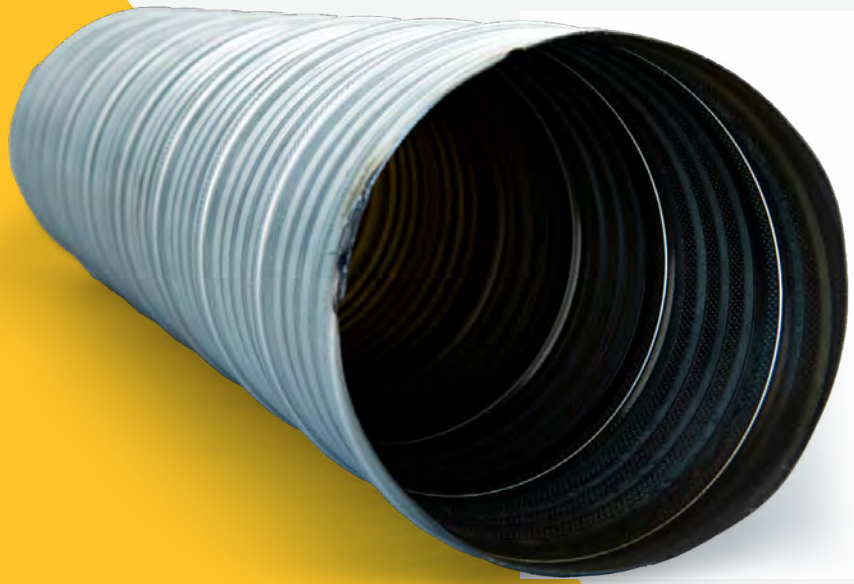
Diorit post-tensioning systems offer innovative products and systems for the construction industry with production in their own hall in Odžak, Bosnia and Herzegovina.

In order to avoid the complicated requirements for the installation of prestressing cables on construction sites, the DIORIT company started production and offered to the market a pre-assembled system of “pick and place” prestressing cables that can be used flexibly, thus saving time and labor of the contractor. This very step meant that we were the “first” in the production of prefabricated prestressing pipes in the Balkan region.

Diorit d.o.o. manufactures these protective tubes for post-tensioning in black and galvanized material. The use of these pipes in modern construction is widely accepted, and they are especially used for pre-stressing or post-stressing of concrete structures as a building material, in the construction of bridges, construction of railways and highways, underground facilities, buildings and canals.

Pipes made of steel tapes for prestressing cables and connectors for said pipes are used as protection and guide of cables-ropes for prestressing in the subsequent prestressing of concrete structures.

Pre-type pipes comply with EN 523 and EN 524 standards.



APPLICATION

The field of application of the pre-type protection tubes for prestressing includes the following areas:

- Bridges
- Railways
- Highways
- Underground facilities
- Buildings
- Canals

Use of these pipes in modern construction is widely accepted

PRODUCT PERFORMANCE

Declaration data — product performance :

- subject to the declaration of conformity — steel strip pipes for prestressing cables and couplings for said pipes EN 523 and EN 524
- material used — pipes made of steel strips with a thickness of 0.3 — 0.6 mm and a width of 78 mm, quality according to standards EN 10139/10140 and EN 10346

Test results:

The quality and characteristics of steel strip pipe products are in accordance with the regulations of the EN 524 1-6 standard. The measured thickness of the pipe during production was 0.3 mm to 0.4 mm, which corresponds to category 1. A thickness of 0.5 mm to 0.6 mm corresponds to category 2 of the above-mentioned standards.

Production in one shift up to
4500 m

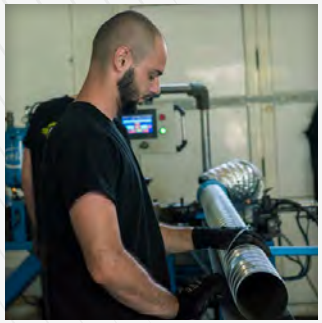
Available pipe diameter
Ø 45-135 mm

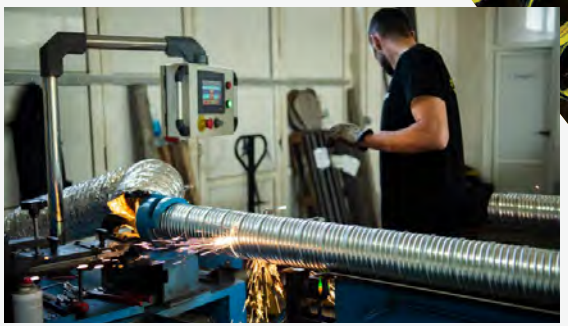
YOUR PROJECT'S STRONGEST LINK

TECHNICAL CHARACTERISTICS

Feature	Specs
Sheet Thickness	Galvanised 0.30, 0.40, 0.50 mm
Sheet Width	78 mm
Beading No	4 pcs
Seam Width	5.2 mm
Lubrication	Automatic
Table	Run-off table
Cutting type	With torch
Air pressure and consumption	6 bar 10 lt/min
Power Supply	3 Ph, 380 V 50 Hz
Machine Size	3,2 mt X 1,75 mt X 2,5 mt(2 run-off table included)
Weight	650 kg

Tube diameters: Ø 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135



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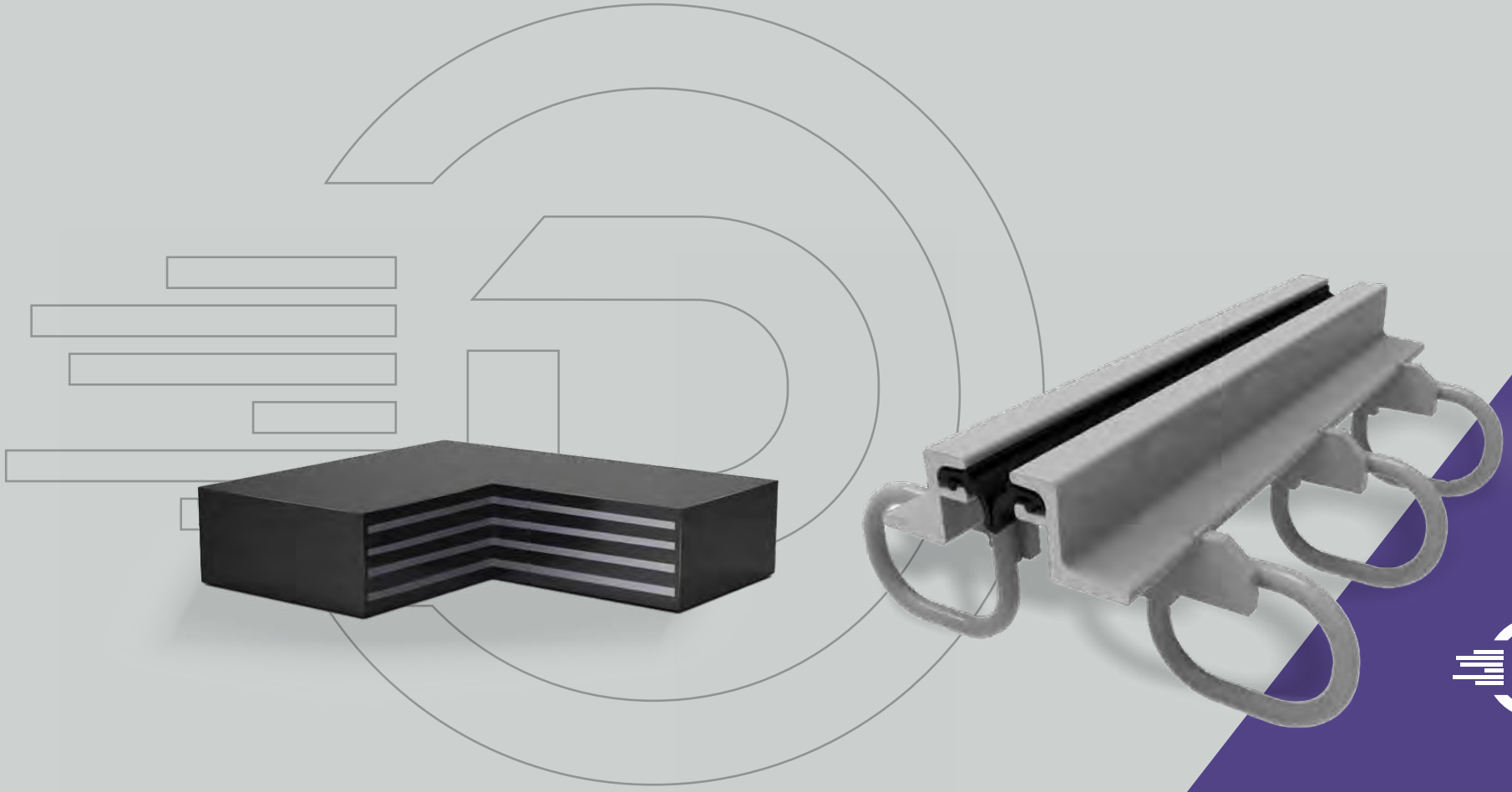
BRIDGE CONSTRUCTION

Expansion joints and bearings



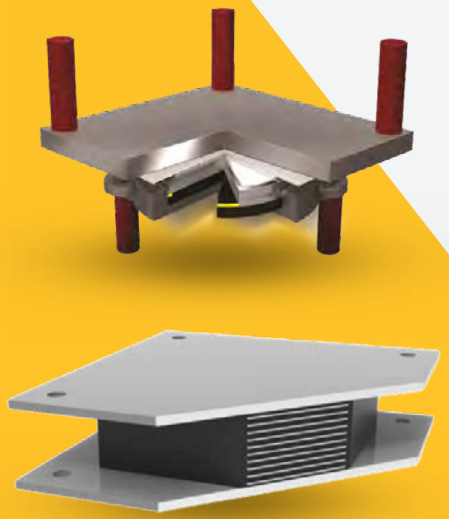
DIORIT

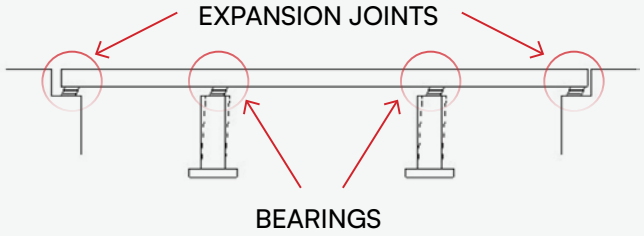
Expansion joints and bearings In Bridge Construction

Transitional devices or expansion joints (often called comb-finger devices), meaning bridge transition devices, consist of a series of comb modules, made by steel casting or machining from steel plates (no welding of parts). The mass and dimensions of the module are optimized to be easy to manipulate and transport.

The basic purpose of transition devices is to enable unhindered movements of the face of the span assembly and to bridge the gap between the face of the building and the abutment, so that traffic can proceed smoothly. By filling structural holes in the bridge construction, transitional devices must satisfy safe load transfer, solid structure of components, low wear, constant adaptation against deformations, watertightness, use of materials resistant to aging, corrosion and wear, durability and simple maintenance.

The steel modules are attached with high-value screws to the steel substructure, which is anchored into the structure of the abutment or span assembly of the bridge. Between the steel comb modules and the steel substructure, an EPDM reinforced rubber seal, reinforced with canvas, is installed, which ensures the watertightness of the transition device. The advantage of these modules is their replaceability on the construction site in case of damage.





APPLICATION

The field of application of the expansion joints and bearings:

Bridges and Viaducts

Other Civil Buildings

Through constant factory control of all production processes and the use of high-quality materials, Diorit offers high quality transitional devices and bearings.

Diorit d.o.o. is able to offer tuned massive shock absorbers for bridges and expansion joints-transitional-comb devices (Bridge Expansion Technology). By using the technology of tuned mass dampers for bridges, vibrations from various sources (wind, earthquake, traffic, etc.) can be significantly reduced.

Standard rubber bearings, cup bearings and spherical bearings are available. For special cases, engineers in cooperation with our company can design tailor-made solutions. The design and delivery of bearings for bridges and expansion joints-transitional-comb devices is carried out together with our partner companies relevant in the world.

EXPANSION JOINTS

- Rubber Expansion Joints
- Aluminum Joints
- Strip Seal Joints
- Modular Joints
- Finger Joints

The joints provide the mechanical fastening between deck to deck or deck to abutments.
Bridge deck joint allow a bridge to expand and contract due to a number factors as :

- Temperature changes
- Deflections caused by live loads
- Creep and shrinkage of concrete

BEARINGS

- Elastomeric Bearings
- Pot Bearings
- Spherical Bearings
- LRB and Pendulum seismic bearings

Bearings provide the mechanical fastening between bridge deck and the piers, abutments, etc.
Functions:

- The function of a bearing system is to transmit to the supports;
- The vertical and horizontal actions,
- The rotational and translational displacements.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DIORIT - BUILDING SOLUTIONS TOGETHER

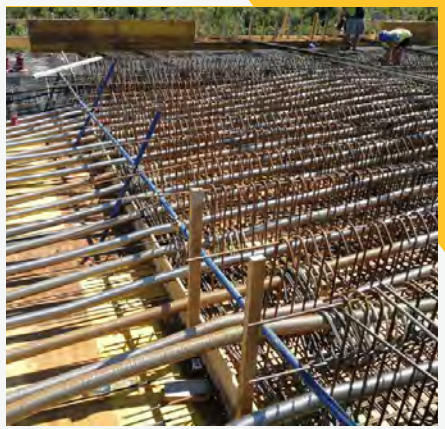
References, Certificates and Quality Control

Diorit References

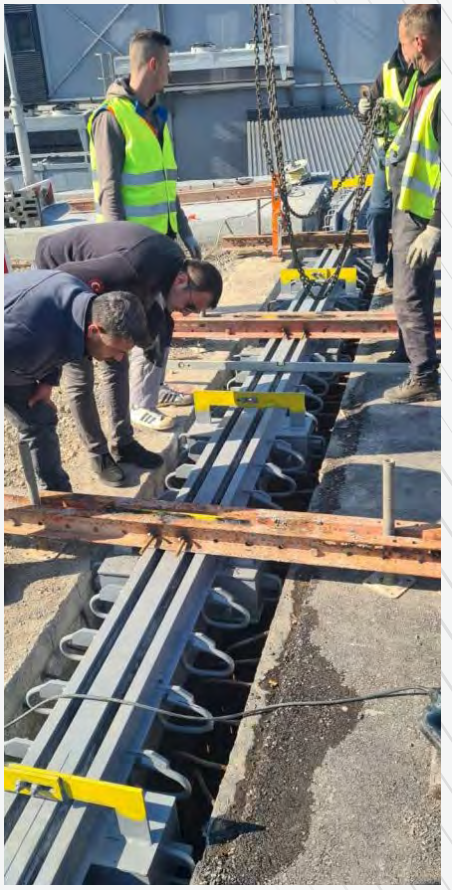
Diorit has proven itself as a regional company that successfully participates in and collaborates on numerous infrastructure projects in the region, serving both as a contractor and a supplier of necessary equipment or materials.

PROJECT DESCRIPTION	COUNTRY
Tunnel Hranjen - Goražde (Delivery and supply of self-drilling SDA and SN anchors);	Bosnia and Herzegovina
The second route of the railway line Divača-Koper (Delivery and supply of SN anchors);	Slovenia
Tunnel Kobilja Glava Sarajevo (Delivery and supply of self-drilling SDA and Forepoling/Piperoof);	Bosnia and Herzegovina
Tunnel Donja Golubinja-Topčić Polje (Delivery and supply of self-drilling SDA and Forepoling/Piperoof);	Bosnia and Herzegovina
Bypass Medakovo-Doboj (Delivery and supply of self-drilling SDA; SN anchors and Forepoling/Piperoof);	Bosnia and Herzegovina
Bypass of Zalău municipality between DN1F, km 79+625 — DJ 191 C; Bypass Project, Zalau (Delivery and supply of anchors, strand anchors and pre-tensioning pipes-PT Ducts);	Romania
State road IB category no. 21. Novi Sad-Ruma Fruškograd Corridor (Delivery and supply of self-drilling anchors, SN anchors and pipes for prestressing-PT-Ducts);	Serbia
Ruma-Šabac-Loznica highway and expressway, Section 1 and 2, Ruma-Šabac highway, Ruma interchange (Delivery and supply of anchors, PC strand and pre-tensioning pipes);	Serbia
Highway E-763 Preljina-Požega, section in Čačak (Delivery and supply of PC strand and strand anchors with pre-type tubes for prestressing);	Serbia
Tunnel Bakovac (Delivery and supply of self-drilling anchors and SN anchors)-(Diorit supplied a dump truck and a excavator);	Croatia
Tunnel Ivan - Tarčin-Konjic (Delivery and supply of self-drilling anchors and SN anchors);	Bosnia and Herzegovina
Tunnel Ponirak - Zenica (Delivery and supply of self-drilling anchors and SN anchors)	Bosnia and Herzegovina
Počitelj Tunnel (Delivery and supply of self-drilling anchors and SN anchors);	Bosnia and Herzegovina
Hydrotechnical tunnel Ribnica - Kakanj (Diorit supplied the underground drilling machine and loader for excavating the material from the tunnel and the drilling tools);	Bosnia and Herzegovina
Hydropower plant Arilje, Geosonde - Belgrade (Diorit supplied the geotechnical rope anchors);	Serbia
Project Mrtvica 1, 2 — Serbia — Corridor 10 (Diorit supplied strand anchors, Gewi® bars and self-drilling anchors);	Serbia
Slope rehabilitation - Grdelica, Corridor 10 (Diorit supplied the self-drilling anchors);	Serbia
Predejane Tunnel, Corridor 10 (Supplied the strand anchors);	Serbia
Pljevlje mine basin (Diorit supplied self-drilling anchors)	Montenegro
Construction of the port "Kostolac" (Diorit supplied strand anchors, Gewi® bars 950/1050)	Serbia
Rudnici boksita Jajce (Diorit supplied machines for underground mining);	Bosnia and Herzegovina
Ričice tunnel and Pečuj tunnel (Diorit supplied self-drilling anchors)	Bosnia and Herzegovina
Highway Bar-Boljare (Supplied strand anchors and Gewi® bars);	Montenegro
Project convector station (Diorit supplied micropiles)	Montenegro
Tunnel "1. Mart" (Diorit supplied the Atlas Copco drilling machine, drilling tools and spare parts) etc.;	Bosnia and Herzegovina
Bridge M16 Belgrade bypass project	Serbia
Overpass at km 13+288 railway project Beograd Novi Sad	Serbia
Overpass at km 20+993 Batajnica	Serbia
Bridges M1, M5, M6, M7, M9, M11 and M14 **highway Ruma Sabac**	Serbia
9 Bridges and overpasses railway project **Novi Sad-Subotica**, section 1	Serbia
Bridge at km 117+155 railway project **Novi Sad-Subotica**	Serbia
Bridges M31, M32, Moravica highway project E-763 **Preljina Pozega** — under construction	Serbia

YOUR PROJECT'S STRONGEST LINK



PRE-STRESSING WORKS:	
Prestressing works on the "Ričice" Bridge - Zenička bypass	Bosnia and Herzegovina
Bridge "Trebaljevo" (Prestressing works)	Montenegro
Bridge "Bijelo Polje" (Prestressing works)	Montenegro
Vijaduct Ričice	Bosnia and Herzegovina
Klopačka Stijene Viaduct	Bosnia and Herzegovina
Viaduct Babina Rijeka	Bosnia and Herzegovina
Zeleni Most in Gradiška	Bosnia and Herzegovina
Bridge Čelinac	Bosnia and Herzegovina
Bridge in Vukovar	Croatia
Dumanja Jaruga	Croatia
Pre-Stressing Work On The Construction Of The Bar-Boljare Highway: (Subcontractor for prestressing: Diorit Sarajevo) Bridges: Preljubovica, Kisjelica, Pelev Brijeg, Lutovo	Montenegro
INSTALLATION EXPANSION JOINT:	
Drivuša Bridge	Bosnia and Herzegovina
Bridge Čelinac	Bosnia and Herzegovina
Bridge in Vukovar	Croatia
Viaduct Brijesta-Pelješac	Croatia



Precision Built, Future Assured.

Building solutions together.

DIORIT

Diorit is Accredited for World Markets

Diorit takes pride in its commitment to quality management, demonstrated through various certifications obtained in accordance with regulatory standards. These certifications serve as a testament to the company's proactive approach to quality assurance and are subject to regular surveillance, ensuring that Diorit consistently upholds the highest standards in its operations.


Anlage zum
Zertifikat-Nr. TIC 15 100 2010922

DIORIT d.o.o. Sarajevo
Tvornička 3
BiH - 71000 Sarajevo


Enclosure to
Certificate-№ TIC 15 100 2010922

DIORIT d.o.o. Sarajevo
Tvornička 3
BiH - 71000 Sarajevo


Prilog u vezi sa
certifikatom br. TIC 15 100 2010922

DIORIT d.o.o. Sarajevo
Tvornička 3
BiH - 71000 Sarajevo


TECHNICKY A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

EC CERTIFICATE OF CONFORMITY

No. 1020 – CPD – 050-025301

Product
Structural bearings

Liuzhou OVM Machinery Co., Ltd.


Certificate
of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2008


TECHNICKY A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

EC CERTIFICATE OF CONFORMITY

No. 1020 - CPD - 050-0270DR

POST-TENSIONING SYSTEM - OVM M15A

Napko, spol. s r.o.

Liuzhou OVM Machinery Co., Ltd.

ETA-10/0707, valid from 01.06.2013 to 31.05.2018


Prilog u vezi sa
certifikatom br. TIC 15 104 222021
TIC 15 118 22558

DIORIT d.o.o. Sarajevo
Tvornička 3
BiH - 71000 Sarajevo


TECHNICKY A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague, SOE

Authorized Body 204
empowered by the Decision of CDSMT No. 05/2017
Branch 0900 – Technical Engineering Services

NATIONAL TECHNICAL APPROVAL

No 090-090417

SELF DRILLING ANCHORS (SD)

DIORIT D.O.O. SARAJEVO


Slovensko tehnično soglasje


Certifikat
o neprenamljivosti lastnosti

REG2-0004-03 – ZGPro1 – 2017


DIORIT

DECLARATION OF PERFORMANCE


ETA

CE

European Technical Approval

Building solutions together.

Diorit d.o.o
Tvornička br. 3, Orange Centar,
71210 Ilidža-Sarajevo, Bosnia and Herzegovina
+38733265135 | +38765335170
mario.vrdoljak@diorit.biz | www.diorit.biz