



COMERCIAL DE SONDEOS

CATALOG
ENGLISH



www.comercialdesondeos.com



www.forancor.com







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QUALITY

We are aware that in our sector it is essential to provide reliable product guarantees and a firm commitment to the environment. Therefore, our primary goal is to offer material that is price-competitive while always backed by reliable and trustworthy quality and sustainability certifications.

To be as rigorous as possible in this regard, **Comercial de Sondeos, S.L.** supports and promotes the management systems **ISO 9001** (Quality) and **ISO 14001** (Environmental Management), maintaining the following commitments:

Quality and Environmental Commitments

- **Ensure a customer-focused approach** within our organization by providing sustainable products and **complying with all applicable requirements:** legal, client, environmental, and quality.
- **Foster a culture of continuous improvement** at all levels and activities and **minimize the environmental impact** of our production and logistics processes.
- **Establish annual objectives** for measurable and verifiable quality and sustainability.

Strategic Lines of Action

1. **Strengthen employee commitment** to quality and environmental sustainability.
2. **Improve manufacturing process** efficiency by reducing waste and consumption, and **optimize the management** of raw materials and resources, minimizing environmental impact.
3. **Develop more sustainable products** and eco-efficient manufacturing processes.

To maintain these standards, we subject our documentary, production, and environmental processes to **comprehensive annual audits** that ensure continuous improvement in quality and sustainability. We have **a specialized department dedicated** exclusively to Quality and Environmental management, ensuring a rapid response to our clients' needs in these critical areas.



THE COMPANY

Comercial de Sondeos, S.L. was founded in 1983 and since then has specialized in the supply of materials and services for special foundations.

With more than 40 years of experience in the sector, we have established ourselves as a leading company in the supply and distribution of **steel pipes** for the execution of **micropiles** in Spain. We stand out in the manufacturing of **ground anchors with cable and bar**, as well as the development of specific products for **tunnels and mining**.

In recent years, thanks to a solid business strategy and the quality of our products, we have achieved remarkable **international expansion**, opening our own representation in Portugal, increasing our presence in France and the **rest of Europe**, and diversifying into new business lines that complement our main product.

In addition, we are carrying out significant technical development in our factory and products by applying new **R&D technologies**, allowing us to improve quality and service efficiency while staying at the forefront of the most advanced drilling techniques.

We have facilities covering **100,000 m²**, with capacity to store more than **28,000 tons** of steel pipes in various diameters, lengths, and thicknesses. This infrastructure allows us to significantly reduce **delivery times** and guarantee an excellent **quality-price ratio**, which are fundamental pillars of our commitment to our clients.

REINFORCEMENT FOR MICROPILES

CS550® TUBE SPECIFICATIONS

MANUFACTURING STANDARDS: EN 10219-2 and EN 10219-3

- Pipe manufactured specifically for use as **reinforcement in micropiles**.
- CS550® is designed for structural applications with cyclic loads.
- Engineered to provide good **weldability**.
- **Traceability**/certification from the factory and machining through to on-site delivery.

CSTM80 TUBE SPECIFICATIONS

MANUFACTURING STANDARDS: API 5CT

- Product certification based on testing and a certificate of conformity for factory production control.
- High load-bearing capacity, optimal strength by composition for extreme conditions.

MOST COMMON STEEL TYPES

EN 10025	API 5CT	Yield Strength min	Tensile Strength	Elongation min
		N/mm ²	N/mm ²	%
S235	-	235	340-470	26
S275	-	275	410-560	22
S355	-	355	490-630	22
S550	-	550	600-750	16
-	J55	379	517	24
-	K55	379	655	19
-	N80	552-758	689	18

THREAD TYPES



Male – Female: Square-thread connection for quick screwing, with four threads per inch.



Male – Male: with standard external coupling, square-thread connection for quick screwing, with four threads per inch and couplings up to 30 cm in length.



Female – Female: with standard internal coupling, square-thread connection for quick screwing, with four threads per inch.



Rotary Percussion: round-profile, double-entry thread for very fast connection. Ideal for use with a lost drill bit and in rotary-percussion conditions.



Gas-Type Thread: A special thread for fluids, both liquids and gases



Special Threads

REINFORCEMENT FOR MICROPILES

OTHER WORKS/ACCESSORIES FOR REINFORCEMENT:



Rubber Valves and Button Valves:

Rubber valves are made through drilled holes in the tube wall, with two or three holes per valve, spaced according to the client's request. These valves are protected by two steel rings welded to the ends of each valve. Button valves are drilled into the tube wall with two or four buttons per valve. The buttons open at a pressure of 5 bar or higher.



Bits: Bits formed by four toothed wings of special wear-resistant steel, designed for drilling in soft to medium ground. They can be manufactured for air or water injection and for either left-hand or right-hand rotation.



Injection/Lifting Heads

Adapters

We manufacture a wide range of adapters with different sizes and threads to combine various drilling and injection systems.



Welding

We have a **certified welding department** with welders **qualified** according to European standards EN ISO 9606 and ASME. Our specialized professionals carry out high-quality welding work on all types of structural steel.





TUBE CS550®- CSTM80

OUTER DIAMETER (MM)	THICKNESS (MM)	SECTION MODULUS (cm3)	MOMENT OF INERTIA (cm4)	STEEL SECTION (cm2)	WEIGHT kgs/m	ALLOWABLE COMPRESSI ON LOAD (Tn)	OUTER DIAMETER (MM)	THICKNESS (MM)	SECTION MODULUS (cm3)	MOMENT OF INERTIA (cm4)	STEEL SECTION (cm2)	WEIGHT kgs/m	ALLOWABLE COMPRESSI ON LOAD (Tn)
43	3	3,52	7,58	3,77	3	19,8	139,7	7	92,17	643,81	29,17	23	153,3
48	4	5,62	13,48	5,53	5	29,1	139,7	7,5	97,68	682,32	31,13	25	163,7
60,3	3,2	7,78	23,46	5,74	5	30,2	139,7	8	103,07	719,92	33,08	26	173,9
60,3	6	12,66	38,16	10,23	8	53,8	139,7	9	113,45	792,43	36,94	31	194,2
73	6	19,56	71,40	12,62	11	66,4	139,7	10	123,33	861,46	40,73	33	214,1
73	6,5	20,75	75,74	13,57	12	71,4	139,7	11	132,73	927,11	44,45	36	233,7
73	7	21,88	79,88	14,51	12	76,3	139,7	12	141,66	989,49	48,12	38	253,0
73	8	23,98	87,54	16,33	13	85,8	139,7	12,5	145,95	1 019,49	49,93	40	262,5
73	8,5	24,95	91,08	17,22	14	90,5	152,4	6	97,14	740,19	27,58	22	145,0
73	9	25,87	94,43	18,09	15	95,1	152,4	9	137,24	1 045,77	40,52	35	213,0
73	10	27,57	100,62	19,78	16	104,0	152,4	10	149,47	1 138,95	44,71	36	235,1
88,9	3	16,81	74,73	8,09	7	42,5	168,3	7	137,28	1 155,20	35,45	28	186,4
88,9	6	30,34	134,87	15,62	13	82,1	168,3	9	170,24	1 432,56	45,02	36	236,7
88,9	6,5	32,31	143,62	16,82	14	88,4	168,3	10	185,76	1 563,19	49,71	40	261,3
88,9	7	34,20	152,04	18,00	14	94,6	168,3	11	200,67	1 688,64	54,33	43	285,6
88,9	7,5	36,02	160,12	19,17	16	100,8	168,3	16	266,55	2 242,98	76,52	61	402,2
88,9	8	37,77	167,88	20,32	16	106,8	177,8	9	191,66	1 703,85	47,70	38	250,8
88,9	8,5	39,44	175,33	21,46	17	112,8	177,8	9,5	200,58	1 783,19	50,20	40	263,9
88,9	9	41,05	182,47	22,58	19	118,7	177,8	10	209,34	1 861,04	52,69	42	277,0
88,9	9,5	42,59	189,32	23,69	19	124,5	177,8	11	226,36	2 012,36	57,61	46	302,9
88,9	10	44,07	195,88	24,77	20	130,2	177,8	12,5	250,69	2 228,66	64,88	51	341,1
88,9	12	49,36	219,41	28,98	23	152,3	193,7	6,3	168,22	1 629,22	37,07	30	194,9
101,6	6	40,66	206,57	18,01	15	94,7	193,7	12	293,01	2 837,76	68,46	54	359,9
101,6	7	46,04	233,87	20,79	17	109,3	203	6	177,55	1 802,16	37,11	30	195,1
101,6	7,5	48,59	246,84	22,16	18	116,5	203	9	254,66	2 584,76	54,82	44	288,2
101,6	8	51,06	259,37	23,51	19	123,6	203	12	324,61	3 294,82	71,97	57	378,3
101,6	9	55,74	283,14	26,17	21	137,6	219	6	208,00	2 277,58	40,13	32	211,0
101,6	10	60,09	305,26	28,76	23	151,2	219	8	269,77	2 953,93	53,00	42	278,6
101,6	12,5	69,66	353,87	34,97	28	183,8	219	9	299,31	3 277,46	59,35	47	312,0
114,3	7	59,64	340,86	23,58	19	124,0	219	10	327,99	3 591,46	65,63	52	345,0
114,3	8	66,37	379,30	26,70	21	140,4	219	11	355,81	3 896,15	71,84	57	377,7
114,3	9	72,70	415,46	29,76	24	156,4	219	20	570,66	6 248,76	124,97	99	657,0
114,3	10	78,64	449,43	32,75	26	172,2	244	10	412,97	5 038,25	73,48	58	386,3
127	8	83,71	531,53	29,89	25	157,1	244	11,5	466,13	5 686,80	83,96	66	441,4
127	9	91,93	583,78	33,35	28	175,3	244	12,5	500,39	6 104,74	90,86	72	477,7
127	10	99,72	633,23	36,74	29	193,1	273	6	328,56	4 484,81	50,30	40	-
127	12	114,04	724,13	43,33	35	227,8	298	14	846,82	12 617,60	124,85	99	656,3

CABLE ANCHOR

FORANCOR cable anchors are an actively prestressed ground anchoring system manufactured in accordance with DIN 4125 and EN 1537 standards.

Main components of the system:

- **Bulb zone:** The anchor is fixed to the ground with high-strength cement grout, transferring loads through bond and friction with the surrounding soil.
- **Free length:** Section isolated from the ground by a protective sheath that allows the cable to **move freely** during stressing, ensuring correct application of the prestressing load.
- **Anchor head:** Load-transfer system that transmits the **anchoring force** from the cable to the structure to be stabilized.



During manufacturing, each cable receives permanent anti-corrosion protection and is individually sheathed to ensure durability.

The number of cables is determined according to the load requirements and the characteristics of the ground.

The main applications of FORANCOR cable anchors are:

- Structural reinforcement
- Rock anchoring
- Slope stabilization
- Absorption of foundation reinforcement loads.



CABLE ANCHOR

PERMANENT ANCHOR

Permanent anchors are designed for long-term applications (over 100 years). They incorporate a multilayer anti-corrosion protection system that includes individually greased and sheathed cables and an external corrugated sheath that provides an additional barrier against corrosion and environmental agents.

Main fields of application:

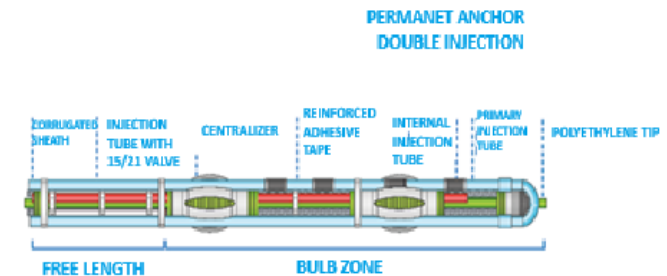
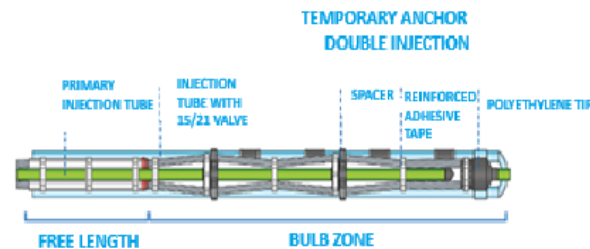
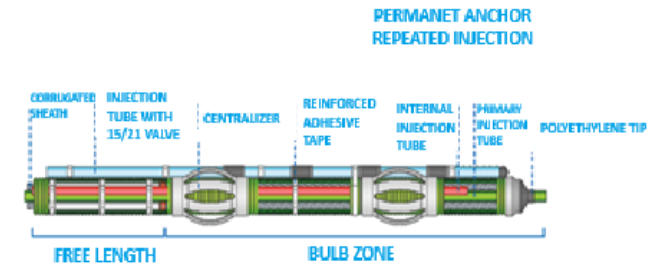
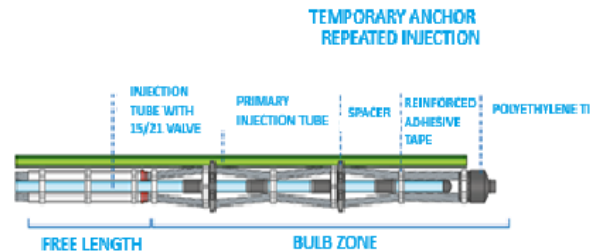
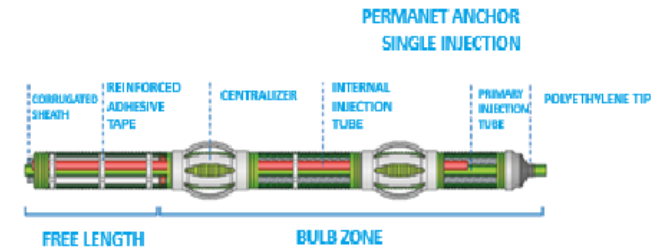
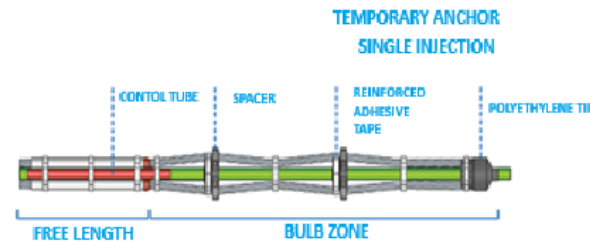
- Stabilization against uplift – control of hydrostatic pressure.
- Structural stabilization – permanent anchoring of retaining walls and containment structures.
- Rock-mass consolidation – permanent stabilization of slopes and rock formations.
- Special foundations – tension anchors in large-scale construction projects.

TEMPORARY ANCHOR

Temporary anchors are a short-term solution with a service life of up to 2 years, designed to provide stabilization during construction phases.

Main fields of application include:

- Excavation support.
- Structural stabilization.
- Slope retention in infrastructure works.



BAR ANCHORS

Bar anchors are an active ground anchoring system manufactured in accordance with **DIN 4125** and **EN 1537** standards, designed to transfer structural loads through controlled prestressing using high-strength steel bars.

Main components of the system:

- **Bulb zone:** The anchor is fixed to the ground with high-strength cement grout, transferring loads by bond and lateral friction to the bearing soil or rock layer.
- **Free length:** Section of the bar isolated from the ground with a smooth protective sheath that allows free movement during stressing, ensuring correct application of the prestressing load without interference.
- **Anchor head:** Transfer system that transmits the anchoring force from the bar to the structure to be stabilized.

Main applications of bar anchors:

- Upward anchors
- Rock and slope stabilization
- Positional stabilization
- Uplift (anti-buoyancy) stabilization
- Excavations
- Dam construction

PERMANENT BAR ANCHOR

Permanent bar anchors are designed for long-term applications with a **service life of over 100 years**. They incorporate a **certified anti-corrosion protection system** compliant with international standards, together with an **approved anchor head** that includes **hermetic sealing** and **permanent watertight joints** to ensure the long-term integrity of the system.

Main fields of application:

- Permanent anchoring.
- Positional stabilization.
- Dam construction.
- Rock and slope stabilization.

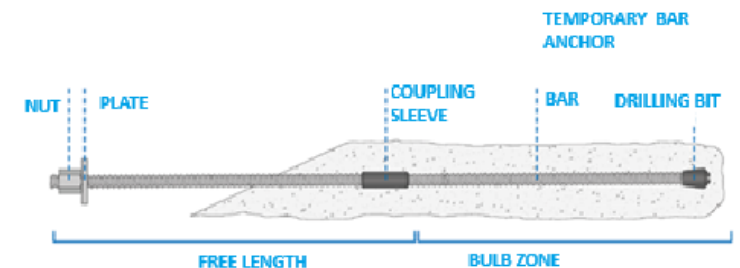


TEMPORARY BAR ANCHOR

Temporary bar anchors provide a short-term solution with a **design service life of up to 2 years**, although their service period can be extended through specific technical evaluations and proper maintenance, adapting to the particular needs of each construction project.

Their main fields of application are:

- Temporary anchoring.
- Structural stabilization.
- Excavation support.



PRE-GROUTED BAR ANCHORS

Comercial de Sondeos has a specialized facility dedicated to the manufacture of pre-grouted anchors, equipped with the most advanced machinery and technology to guarantee the highest quality in every process.

ADVANTAGES OF PRE-GROUTED ANCHORS

- **Superior quality control** – Workshop fabrication allows exhaustive control of mixes, setting times, and dosages, eliminating climatic and on-site variables that could affect the final quality.
- **Time optimization** – On-site installation is significantly reduced since the anchors arrive ready for placement, shortening execution schedules and lowering associated costs.
- **Guaranteed anti-corrosion protection** – The controlled workshop process ensures homogeneous and long-lasting protection, especially critical in aggressive environments or long-term projects.
- **Risk reduction** – Minimizes the possibility of human errors in dosages, defective mixes, or inadequate curing processes that could compromise structural integrity.
- **Complete traceability** – Each anchor has a detailed record of materials, manufacturing dates, curing conditions, and quality controls, providing full traceability from the factory to the construction site.
- **Technical versatility** – We offer two specialized systems adapted to different needs: fully pre-grouted anchors for maximum protection, and hybrid systems with a greased free length for specific applications:

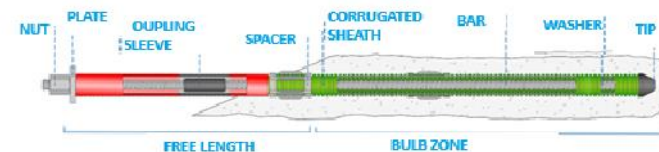
TYPE 1 – BULB AND FREE LENGTH PRE-GROUTED

- Complete anti-corrosion protection
- Greater durability in aggressive environments
- Faster on-site installation
- Comprehensive quality control in the workshop
- Lower risk of corrosion-related failures



TYPE 2 – BULB PRE-GROUTED, FREE LENGTH WITH SHEATH

- Lower manufacturing cost
- Flexibility in free-length dimensions
- Easy field assembly
- Lower transport weight
- Adaptable to specific requirements



CONTINUOUS THREADED BAR

High-strength continuous threaded bar manufactured from **B500B steel** in accordance with **DIN 488**, this bar is characterized by a special **left-hand rolled thread** that runs **along its entire length**, providing maximum bond and installation versatility. Bars are connected axially by **specialized coupler sleeves**, designed to transfer the full breaking load with a **safety factor greater than 1.15**, ensuring the structural continuity of the system.

Key features:

- **Full-length threading** – continuous thread along the entire bar for maximum flexibility.
- **On-site adaptability** – length adjustment on site without additional machining.
- **Simplified installation** – direct application without the need for large working spaces.
- **Secure connection** – certified coupler system for full load transfer.

Main fields of application:

- **High-demand structural joints** – critical connections in reinforced concrete structures.
- **Civil engineering works** – infrastructure, bridges, tunnels, and large-scale structures.
- **Reinforcement of steel cages** – connection and extension of structural reinforcement elements.
- **Rebar connections** – joining and splicing of reinforcing bars.



CONTINUOUS THREAD BARS

DENOMINATION	UNIT	STANDARD						HIGH LIMIT					
		Quality: 500/550 MPa						Quality: 670/800 MPa					
		L20S	L25S	L32S	L40S	L50S	L63,5S	L20M	L25M	L32H	L40M	L50M	L63,5M
Ultimate Load / Carga Rotura	kN	175	270	440	690	1080	2215	250	390	640	1010	1570	2540
Yield Point fy 0,2% / Carga de Servicio	kN	160	245	405	630	980	1760	210	330	540	845	1315	2120
Min/Max Diameter / Diámetro min/max	mm	20/23	25/29	32/36	40/45	50/56	63,5/70	20/23	25/29	32/36	40/45	50/56	63,5/70
Average Section / Sección media	mm ²	314	491	804	1256	1963	3167	314	491	804	1256	1963	3167
Theoretical Weight / Peso teórico	kg/m	2,5	3,9	6,3	9,9	15,4	24,9	2,5	3,9	6,3	9,9	15,4	24,9
Tensile Strength / Tensión de Rotura	MPa	550						800					
Yield Strength / Límite Elástico	MPa	500						670					
Elongation / Alargamiento	%	> 12 %						> 10 %					



SELF-DRILLING

The self-drilling bar is a **complete drilling and injection system** that incorporates at its tip a **sacrificial steel drill bit (tri-wing)** adaptable to different geotechnical conditions, allowing **drilling and anchoring in a single operation**. Bars from **1 to 6 meters long** are connected by **high-strength couplers**, enabling any required depth to be reached with full structural continuity.

Installation process: During drilling, **flushing grout** is injected through the hollow core of the bar. When drilling is finished, it is replaced by the **final injection grout**, turning the assembly into a **continuous structural element** that functions as a micropile, rock bolt, or ground anchor.

Technical advantages:

- **Simultaneous drilling and injection** – a single process that shortens execution time.
- **Geotechnical adaptability** – interchangeable drill bits selected according to the ground conditions.
- **Structural continuity** – modular system with no loss of strength at the joints.
- **Functional versatility** – usable as a micropile, rock bolt, or anchor as required.

Main fields of application:

- **Slope stabilization** – consolidation of slopes and cuts in rock or soil.
- **Protection mesh fastening** – anchoring of surface containment systems.
- **Special foundations** – micropiles for strengthening existing foundations.



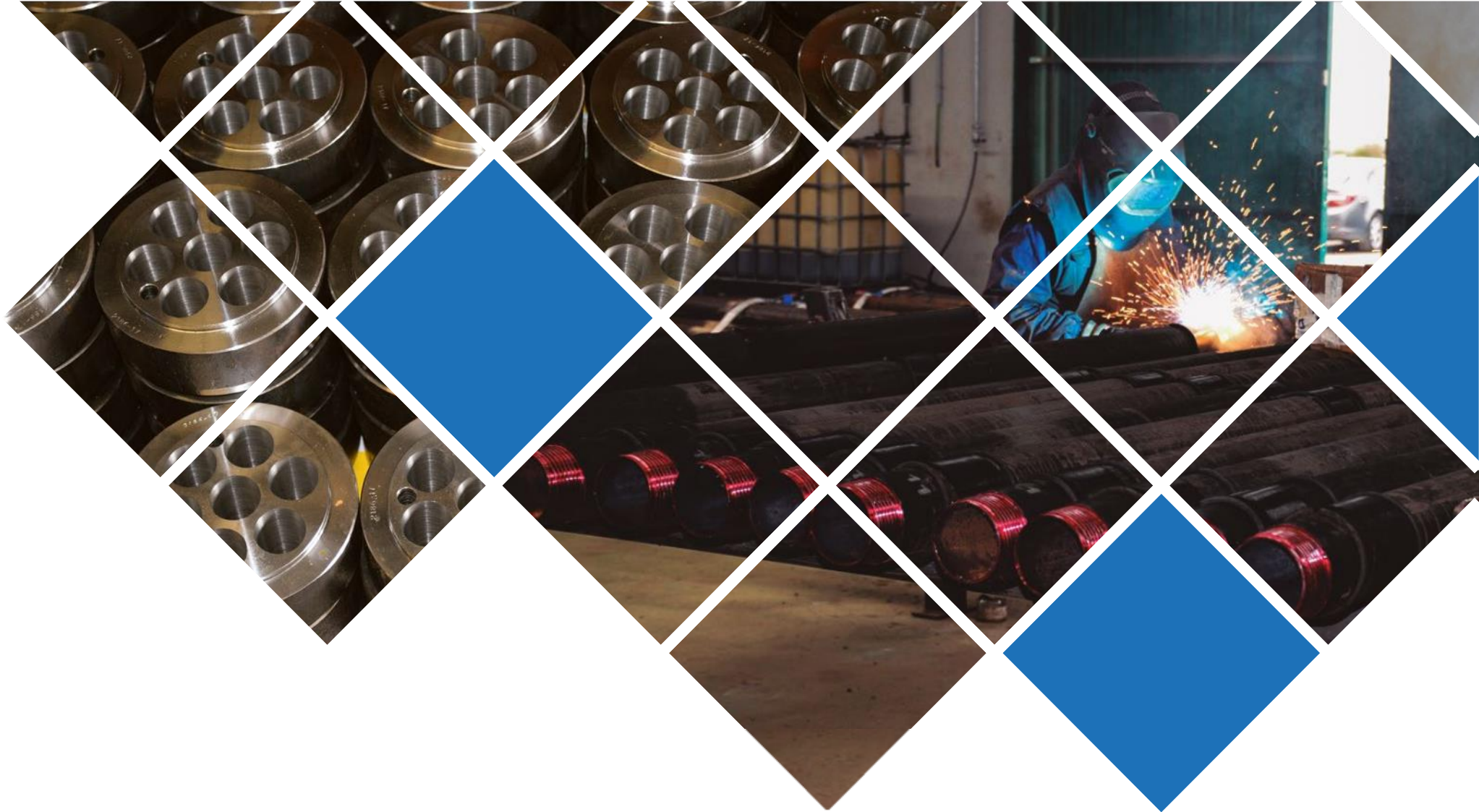
SELF-DRILLING ANCHOR BAR

DENOMINATION		STANDARD													
		R32		R38		R51		R76		R90		R114			
		5.6	7.2	7.1	8.2	7.1	9.4	6.3	8.0	10.0	12.5	8.0	10.0	8.0	10.0
COD	UNIT	RR032065	RR032075	RR038075	RR038085	RR051075	RR051095	RR076065	RR076085	RR076105	RR076125	RR090085	RR090105	RR114085	RR114105
Ultimate load / Carga Rotura	kN	300	400	440	600	620	800	850	1100	1300	1600	1250	1550	1650	2050
Yield point fy 0,2% / Carga de Servicio	kN	240	320	360	450	500	630	680	850	1050	1300	1000	1250	1350	1650
Nominal Diameter / Diámetro nominal	mm	32.0	32.0	38.0	38.0	51.0	51.0	76.0	76.0	76.0	76.0	90.0	90.0	114.0	114.0
Max outside Diameter / Diámetro ext. máx	mm	31.2	31.2	37.9	37.9	49.9	49.9	75.9	75.9	75.9	75.9	88.5	88.5	113.9	113.9
Min inside Diameter / Diámetro int. mín	mm	17.0	14.0	21.0	18.5	37.0	32.0	64.0	60.0	56.0	51.0	71.2	67.1	96.1	92.0
Average section / Sección media	mm ²	314	491	804	1256	1963	3167	314	491	804	1256	1963	3167	314	491
Theoretical weight / Peso teórico	kg/m	3.5	4.2	5.5	6.2	7.5	9.4	10.8	13.5	16.3	19.6	16	19.4	21	25.7
Tensile Strength / Tensión de Rotura	MPa	> 630	> 630	> 510	> 630	> 510	> 630	> 510	> 510	> 510	> 510	> 510	> 510	> 510	> 510
Yield Stress / Límite Elástico	MPa	> 345	> 345	> 355	> 345	> 355	> 345	> 355	> 355	> 355	> 355	> 355	> 355	> 355	> 355
Elongation / Alargamiento	%	> 17	> 17	> 22	> 17	> 22	> 17	> 22	> 22	> 22	> 22	> 22	> 22	> 22	> 22
Steel quality / Calidad		28Mn6	28Mn6	S355	28Mn6	S355	28Mn6	S355	S355	S355	S355	S355	S355	S355	S355

SELF-DRILLING ANCHOR BAR

DENOMINATION		THERMAL													
		R32		R38		R51		R76			R90		R114		
		5.2	7.2	5.2	7.1	8.2	7.1	9.4	6.3	8.0	10.0	8.0	10.0	8.0	10.0
COD	UNIT	RR032065	RR032075	RR038075	RR038085	RR051075	RR051095	RR076065	RR076085	RR076105	RR076125	RR090085	RR090105	RR114085	RR114105
Ultimate load / Carga Rotura	kN	450	580	580	700	820	1000	1200	1400	1800	2200	2100	2500	2800	3450
Yield point fy 0,2% / Carga de Servicio	kN	380	460	480	600	650	800	1000	1100	1400	1700	1600	2000	2100	2700
Nominal Diameter / Diámetro nominal	mm	32.0		38.0		51.0		76.0			90.0		114.0		
Max outside Diameter / Diámetro ext. máx	mm	31.2		37.9		49.9		75.9			88.5		113.9		
Min inside Diameter / Diámetro int. mín	mm	17.9	14.0	25.0	21.0	18.5	37.0	32.0	64.0	60.0	56.0	71.2	67.1	96.1	92.0
Average section / Sección media	mm ²	430	530	530	680	750	950	1150	1300	1690	2050	1950	2400	2550	3180
Theoretical weight / Peso teórico	kg/m	3.3	4.2	4.2	5.5	6.2	7.5	9.4	10.8	13.5	16.3	16	19.4	21	25.7
Tensile Strength / Tensión de Rotura	MPa	> 1100		> 1100		> 1100		> 1100			> 1100		> 1100		
Yield Stress / Límite Elástico	MPa	> 900		> 900		> 900		> 900			> 900		> 900		
Elongation / Alargamiento	%	> 5		> 5		> 5		> 5			> 5		> 5		
Steel quality / Calidad		S355 Termic	28Mn6 Termic	S355 Termic	28Mn6 Termic	S355 Termic	28Mn6 Termic	S355 Termic			S355 Termic		S355 Termic		





**COMERCIAL DE SONDEOS
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