

*Providing  
Excellence  
through*

DEDICATION  
TO STATE OF  
**THE ART  
TECHNOLOGY**



**MOYAGROUP**

► [armosan.com.tr](http://armosan.com.tr)

► [moyagrup.com](http://moyagrup.com)





## MADE IN TURKEY

One and Only producer in Turkey. Biggest producer in our region and one of the important producer in our sector.



## GEOGRAPHICAL ADVANTAGES

Located in Istanbul where is one of the largest logistic base of Turkey and the World.



## QUALITY CONTROL PROCESS

Production policy is created in consideration of quality control regulations and needs.



## SPOKEN LANGUAGES

English, Turkish, Italian, Japanese.



## ENVIRONMENT FRIENDLY PRODUCTION

We are aware of our nature is one of the most important legacy which we will leave to next generations therefor our production system is created based on environment friendly perspective.



## MANUFACTURE FOR EACH CLIENT

With solution oriented working principals, our primary focus is easing our partner's work in construction sites.



## COMPANY HISTORY

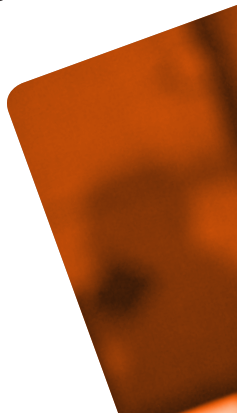
MOYA Construction Machinery Industry and Trade Ltd. was founded in 1993 as a family owned company.

By the intense demand for construction works in Turkey such as retaining steel profile, retaining tube cage, umbrella systems, steel construction, rock bolts etc. for Highway Tunnels, Subway Tunnels, Mine Shafts and Tunnels, Hydroelectric Power Plant projects and also processes of all customer-oriented specific steel construction operations established.

We are very proud, that MOYA has placed its successful mark of quality on the first tunneling in Istanbul between Taksim & Levent in 1994. Consequently , through more successful projects during the years, we were honored and rewarded to be a part of, one of the world greatest underground construction as Marmaray Rail Tube Tunnel Project in Istanbul.

MOYA, combined with Technology, Quality, Experience, Trust and with continuously impassioned development, serves since 24 years the large construction companies in the domestic market.

Thanks to its state of art technology, our factories can perform high quality custom-made products to its customers. The high quality finishing on each product is a result of preferring the top quality raw materials and accessories.







**PROFESSIONAL  
TEAM**  
**SAFE PRODUCTION**



**Business Area:**  
Tunneling, Mining, Hydroelectric and  
Civil Construction

**Established in:**  
1993

**Located in:**  
ISTANBUL / TURKEY

**Business Mix:**  
80% Tunneling,  
20% Civil Construction

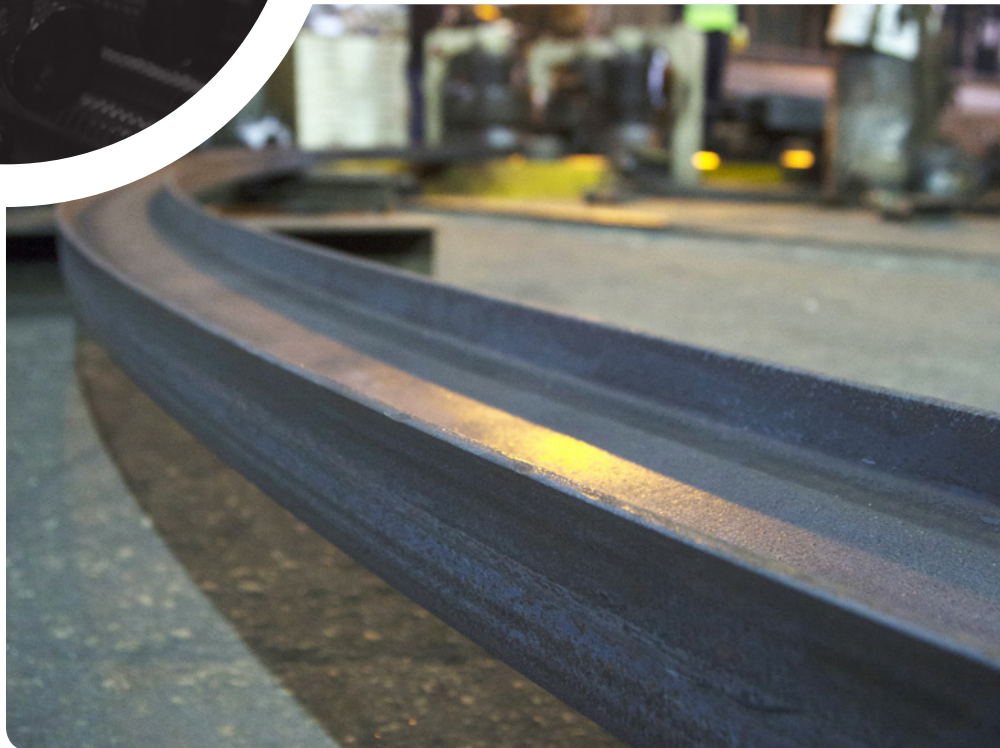
**Employees:**  
100+



**TOTAL  
PRODUCTION AREA**  
**3.500m<sup>2</sup>**

A circular graphic with a dark, industrial background featuring various mechanical parts like bolts and nuts. An orange triangle points to the right, positioned to the left of the text.

Investment in Value Added  
Services through establishment of  
2nd and 3rd plants are dedicated  
to this process.



## WHY US?

### Dedication to State-of-the-art Technology

- Continuous focus on technological advancement, fast adoption of state-of-the-art technologies for optimal proposition.
- Positioning not as a low-cost supplier, but as provider of superior Tunneling Construction technology solutions.

### Long-term Relations

- True understanding of the each other's strategy, organization and people - Prerequisite for successful business relations.
- Long-term perspective required for such understanding.

### Investment in Human Resources

- Critical for success in the global market: Development of the right HR infrastructure.
- Majority of senior management educated and professional experienced in Europe, many fluent in English.

### Providing construction of Excellence.

- In case of every special challenging constructs, supply of the specific quality requirements are must.
- Given the positioning as a experience technology providers, development of superior capabilities is an obvious consequence.

### Being Solution Partner

- We aware of our partners are under tremendous pressure to reduce costs and complexity.
- MOYA's key strategy is to take-over maximum value-added operations to provide complete solutions including production and assembly.

### Advantages of Turkey

- Turkey as the emerging manufacturing powerhouse due to dynamic workforce, cost-competitiveness and logistical advantages.
- Utilizing these advantages, based on our long year experience and required technical know-how.

### CAPABILITY OVERVIEW

- Tunneling
- Mining
- Hydroelectric Plant
- Civil Construction
- Steel Construction
- Soil Stabilization

### PRODUCTS

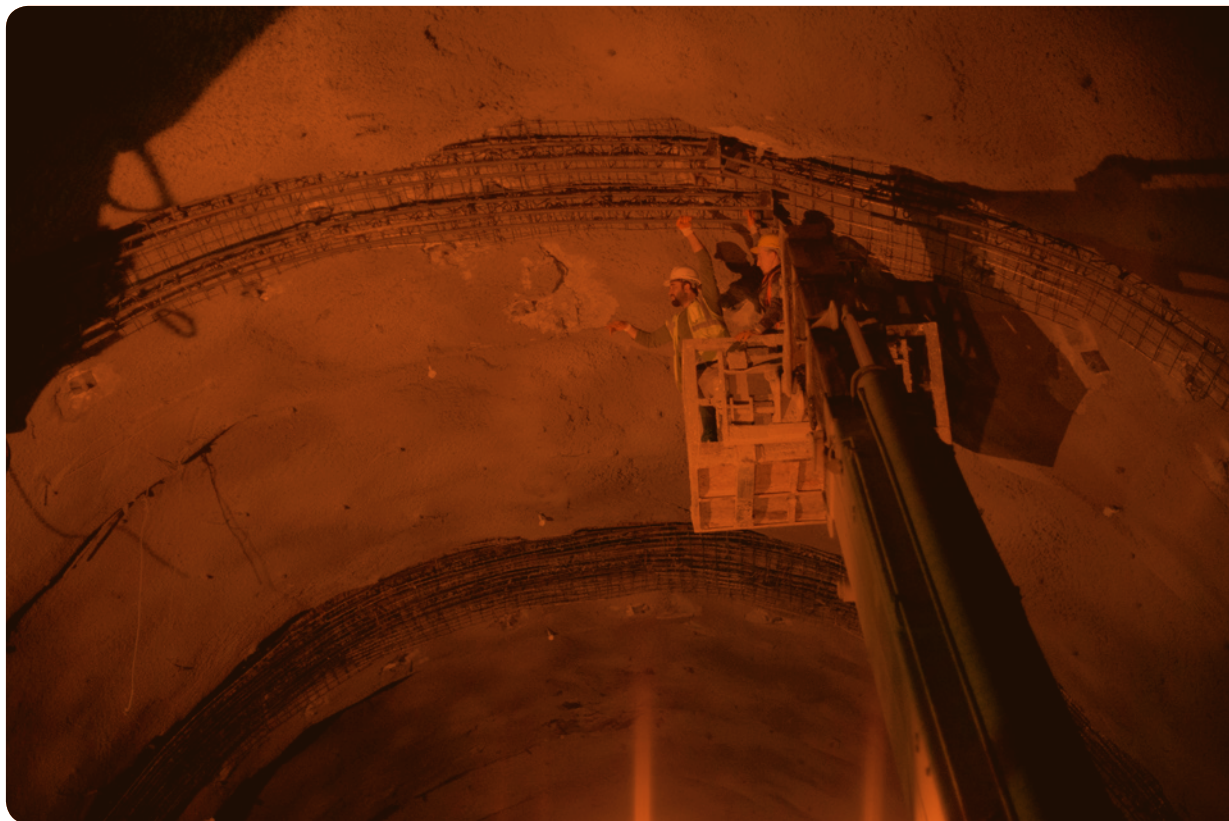
- Lattice Girders
- Profile Arch
- Join Plates
- Connecting Bolts
- Umbrella Arch Systems
- Rock Bolts
- Sub-Assembly





## DESIGN & ENGINEERING

- Providing the right engineering solutions is MOYA's core competence.
- Excellent process control.
- Maximum collaboration with our partners to develop competitive solutions.
- Where possible role as co-designer for development of new products.
- Application of auxiliary devices for high quality.
- Concept and physical properties of each project are critical success factor in our Projects.

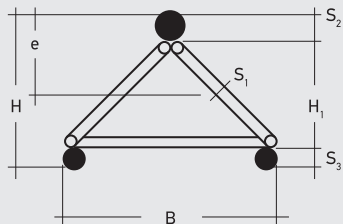


## QUALITY POLICY

- Quality is MOYA's fundament and determinant of all our actions.
- Systematic, methodical problem solving approach.
- Our partner's confidence in our quality approach is the main driver of our market success.

# PRODUCTS

## LATTICE GIRDER MANUFACTURE



### Lattice Girder Bar Material

Tensile Strength 80ksi (550 MPa) min.  
Yield Strength 70ksi (480 MPa) min.  
Elongation 10% minimum

### Connecting Bolts

ASTM A 325N Ø 3/1" minimum



## PROFILE ARCH MANUFACTURE

BENDING CAPACITY			
HPK 200		HPK 240	
SIZE	MIN. DIA.	SIZE	MIN. DIA.
200 x 50	3500	200 x 70	3800
350 x 80	2500	380 x 80	2500
120 x 120	3000	130 x 130	2500
Ø 120	3000	Ø 150	3000
Ø 273 x 5,6	10000	Ø 300 x 5,9	9000
Ø 9" x 6,3	4000	Ø 10" x 9,27	5000
220 x 80 x 7	7000	300 x 100 x 10	8000
180 x 10	5500	200 x 10	6000
200 x 200 x 20	3000	200 x 200 x 24	3000
200 x 200 x 18	5000	200 x 200 x 18	4000
200 x 20	3500	200 x 28	3000
200 x 20	3500	200 x 20	3500
200 x 20	4000	200 x 28	3000
UPN 380	3000	UPN 450	3000
UPN 380	3500	UPN 450	3500
IPN 360	3500	IPN 450	3500
HEB 240	3000	HEB 300	4000
UPN 260	12000	UPN 260	12000
IPN 260	10000	IPN 300	12000
HEB 180	6000	HEB 200	7000



## UMBRELLA ARCH SYSTEM



Attached

Locked



Product Number	Designation Code	Product Number	Designation Code	Product Number	Designation Code
8092402214	P76/8-41-R32 PILOT	8092401737	P114/10-75-T38 PILOT	8092402721	P102/8-65-T38 PILOT
8092402215	P76/8-41-RING BIT SET	8092401735	P114/10-75-RING BIT SET	8092402722	P102/8-65 RING BIT SET
8092400954	P89/8-54-T38 PILOT	8092403843	P140/10-100-T45 PILOT	8092403633	P168/12.7-123-G2-DHD350 PILOT
8092400976	P89/8-54-RING BIT SET	8092403632	P140/10-100-RING BIT SET	8092403634	P168/12.7-123-G2 RING BIT SET

## ROCK BOLTS



**Diameters** Ø40, Ø32, Ø28, Ø26, Ø25, Ø24, Ø22, Ø20  
**Material** All requested quality of rebar

**L** : Length of Rock Bolt  
**L1** : Length of Thread  
**D** : Diameter of Rock Bolt  
**D1** : Diameter of Thread

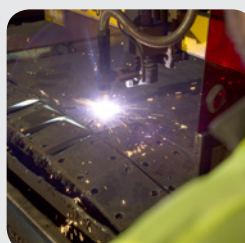
ORDER NUMBER	L (m)	L1 (mm)	D (mm)	D1 (mm)	NUT
RB263M	3	120	26	M24	M24 DIN934
RB264M	4	120	26	M24	M24 DIN934
RB266M	6	120	26	M24	M24 DIN934
RB2612M	12	120	26	M24	M24 DIN934
RB323M	3	120	32	M30	M24 DIN934
RB324M	4	120	32	M30	M24 DIN934
RB326M	6	120	32	M30	M24 DIN934
RB328M	8	120	32	M30	M24 DIN934
RB3212M	12	120	32	M30	M24 DIN934
RB404M	4	120	40	M36	M24 DIN934
RB406M	6	120	40	M36	M24 DIN934
RB408M	8	120	40	M36	M24 DIN934
RB4012M	12	120	40	M36	M24 DIN934

## CNC PLASMA PLATE CUTTING

**Thickness** Min. 3mm - Max. 50mm

**Dimensions** All dimension according to the Project.

**Material** All requested quality of steel sheet.





## COMPANY HISTORY

MOYA Group is facing a dynamic future.

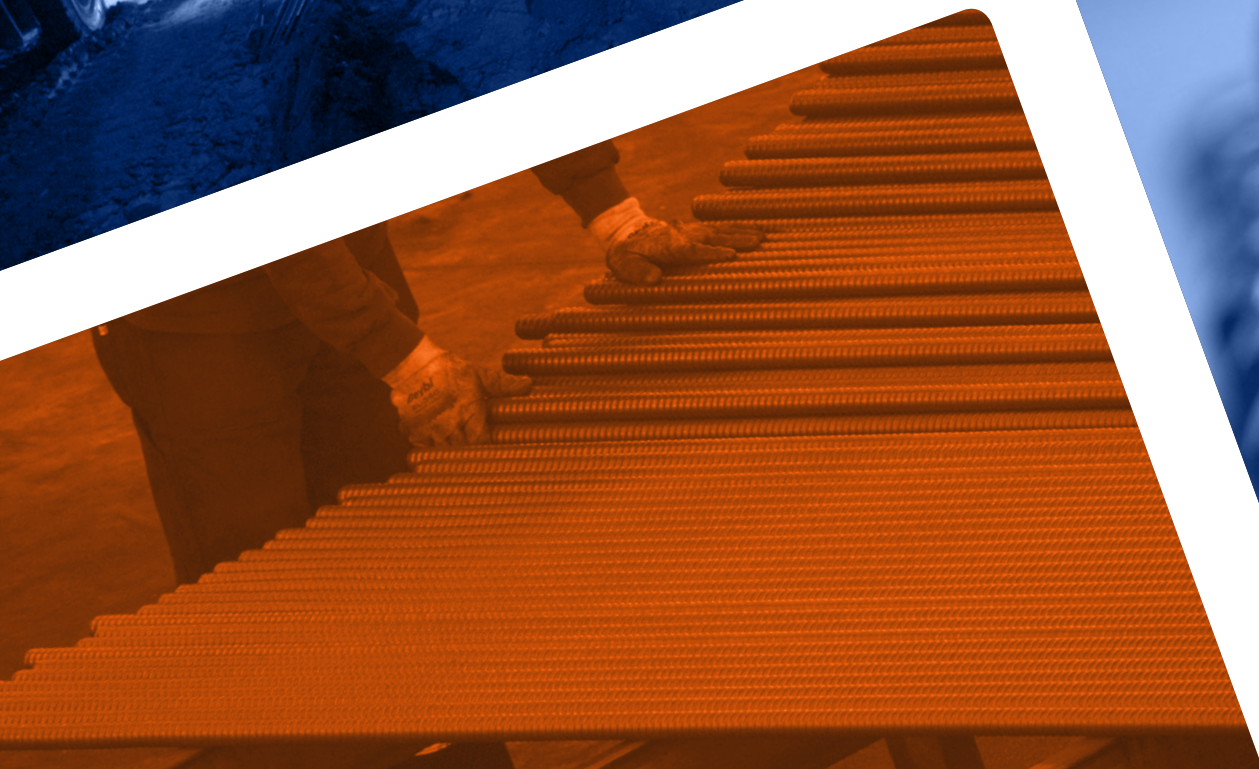
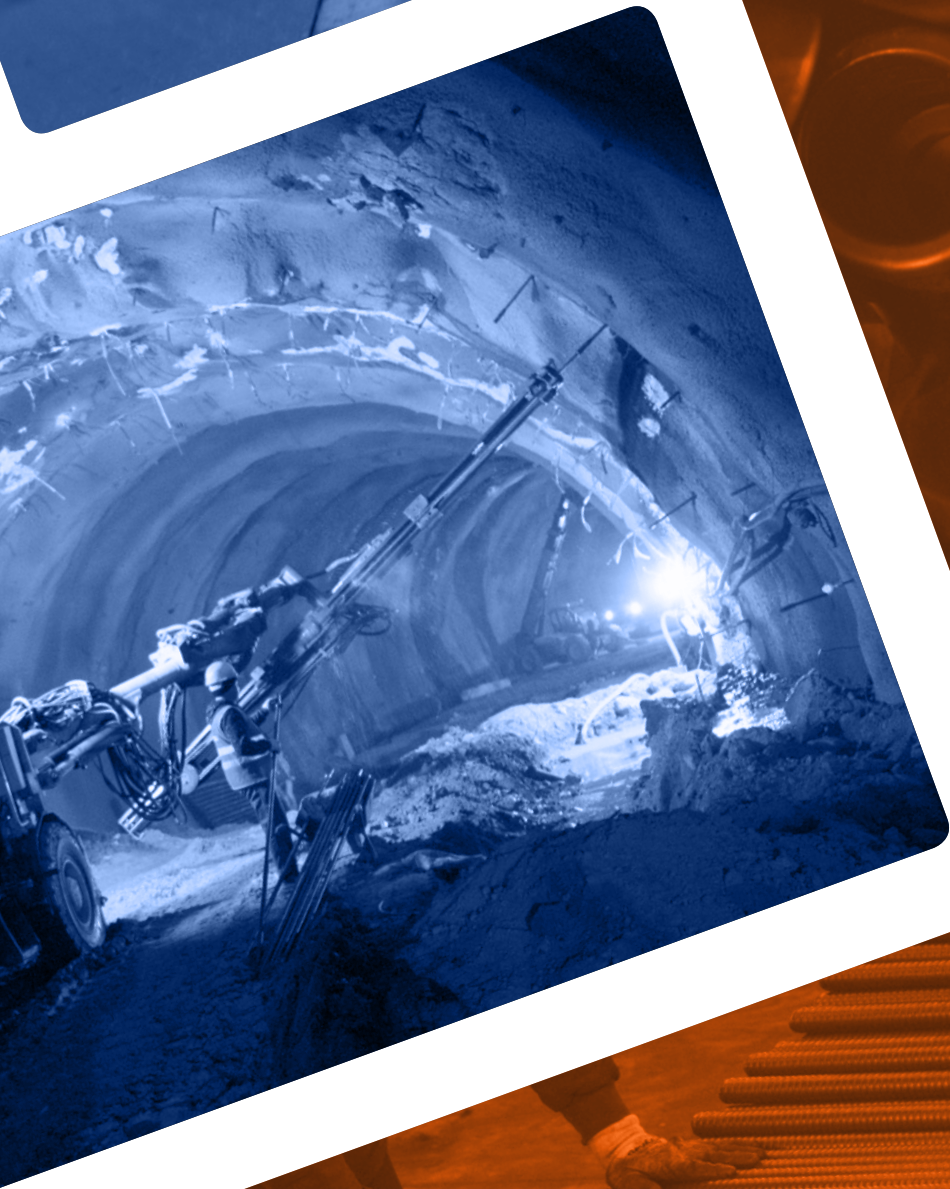
Throughout the country, we are witnessing growing momentum and major investments in construction and infrastructure. Significant projects are emerging in the field of infrastructure including the Turkey.

Such projects substantially reflect the increasing scope of complex development works already in progress and also those in future planning stages.

Spurred by the above momentum, MOYA Group a leading company in the field of tunnel support equipment and infrastructure construction in Turkey, has chosen to utilize its professional know-how and experience also to establish ARMOSAN, its subsidiary company specialized in production of " Self Drilling Anchor-Bolts " and has added this value to increase the quality level, which were previously imported.

ARMOSAN is destined to take a leadership position in emerging construction developments, to improve existing know-how and to contribute to raising the standard to meet the high quality requirements of our partners.







**PROVIDING  
EXCELLENCE**

**Business Area:**

Tunneling, Mining, Hydroelectric Plant  
and Civil Construction

**Established in:**

2011

**Located in:**

EDIRNE / TURKEY

**Business Mix:**

100% production of Self-drilling anchor  
bolt's with hot-drawing method

**Employees:**

40+

Our factory has,  
**4.000 m<sup>2</sup>**  
covered space and  
**5.000 m<sup>2</sup>**  
additional capacity  
is ready for ongoing  
projects

Our factory located in Edirne on  
15.000m<sup>2</sup>, designed in accordance  
with MOYA Group's global  
expansion strategy.



## WHY US?

Self-drilling bolt is manufactured in a way that pipes manufactured with hot-drawing method in accordance with API standards are drilled rounded screw outside with cold-rolling method.

It provides convenience in installation of drill bit, nipple and nut thanks to its rounded screw form. By this means, it increases adhesion performance of concrete to bolt.

Doing drilling and injection processes at one go without changing equipment decreases anchoring time for each hole half-and-half.

Without needing high priced drill bits, it performs drilling process with low priced bits.

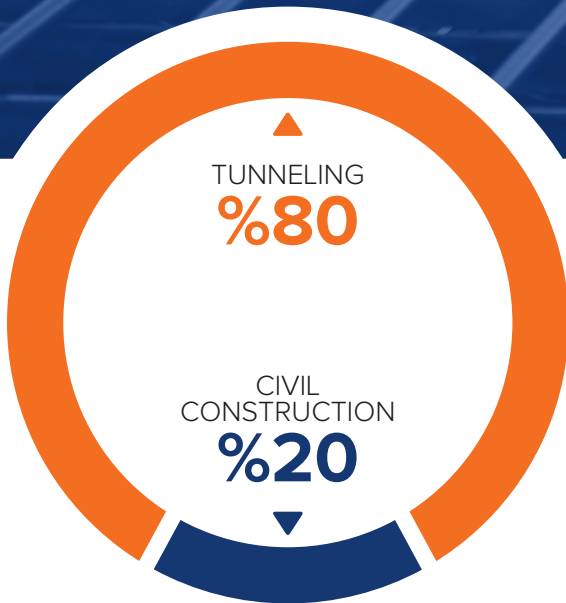
It is the most ideal system for filling up injection excellently starting from the edge to the mouth of hole.

It enables to anchor more deeply and quickly due to its easily addable feature in comparison to other anchoring systems. It enables to drill and inject until 30 meter's by using nipples.

As it is in other anchoring systems, there is no need for drilling pre-pore and using anchor pipe. It provides stabilization of hole during drilling.

It provides to make strong anchor in the least volume. It optimizes needs for man and machine power.

Because it is able to be produced in different sections and diameters, a system appropriate for tensile strength required by the project can be formed.



## CURRENT BUSINESS MIX

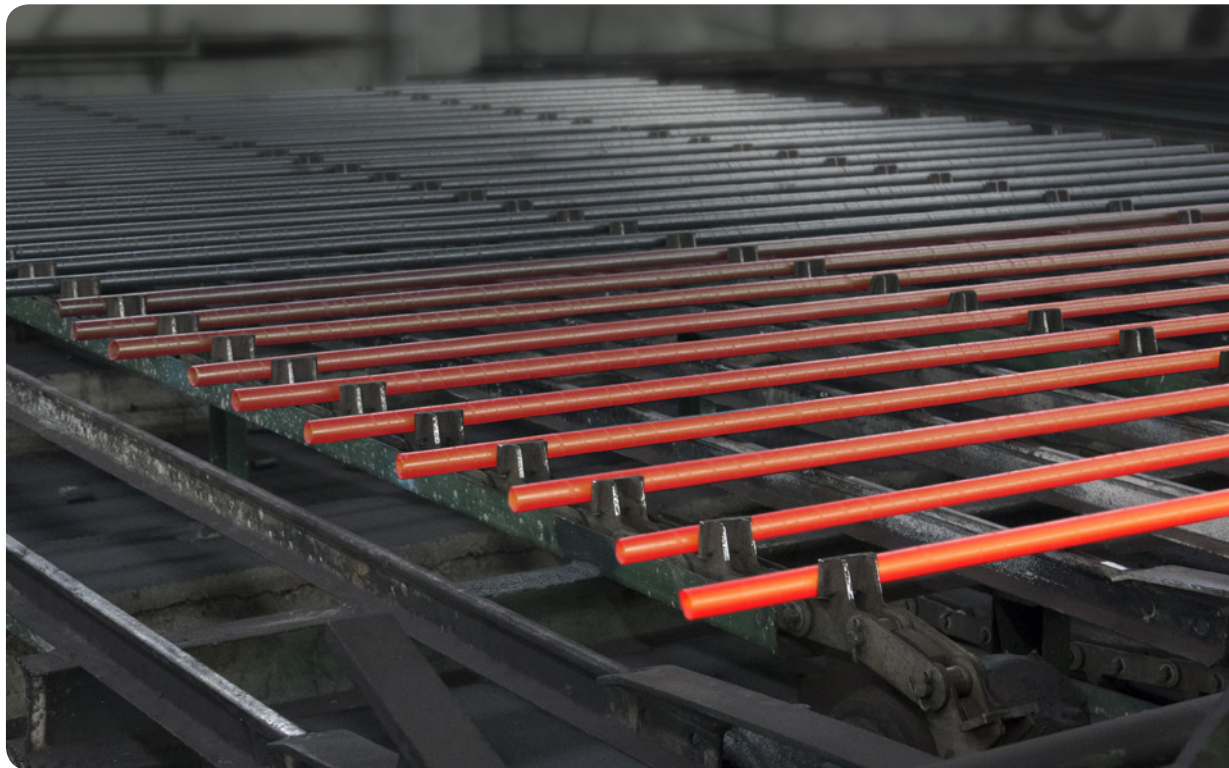
- Majority of business comes from Global Tunneling companies.
- Underground mining.
- Repair.
- Total and General contractor are strategically important to keep financial balance in different economic conditions.





## DESIGN & ENGINEERING

- ‘Self drilled bolting’ system used as the most efficient solution to bolting; is defined as ‘Self Drilling Anchor-Bolts’ in international market.
- It is a unique solution for hard and fractured rock formations and unstable bases like gravelled, clayey, soft and non-homogeneous soil volumes.



## QUALITY POLICY

- Quality is ARMOSAN's fundament and determinant of all our actions.
- Systematic, methodical problem solving approach.
- Our partner's confidence in our quality approach is the main driver of our market success.



# ▶ PRODUCTS



## ▶ ANCHOR BOLTS

SELF DRILLING ANCHOR-BOLTS	R-32 N	R-32 S	R-38 N	R-51 N
OUTER DIAMETER (mm)	32	32	38	51
INNER DIAMETER (mm)	18,5	15	19	33
CROSS SECTIONAL AREA (mm <sup>2</sup> )	396	488	717	939
ULTIMATE LOAD (kN)	280	360	500	800
YIELD LOAD (kN)	230	280	400	630
WEIGHT (kg)	3,4	4,1	6	8,4
THREAD TYPE	ISO10208			



## ▶ NUTS and CENTRALIZERS

ANCHOR NUT	R-32 N	R-32 S	R-38 N	R-51 N
KEY SIZE (mm)	46	46	50	75
LENGTH (mm)	45	45	50	70
UNIT WEIGHT (kg)	0,4	0,4	0,48	1,6
THREAD TYPE	ISO10208			
ANCHOR SPHERICAL NUT	R-32 N	R-32 S	R-38 N	R-51 N
KEY SIZE (mm)	46	46	-	-
LENGTH (mm)	37	37	-	-
UNIT WEIGHT (kg)	0,4	0,4	-	-
THREAD TYPE	ISO10208			



## ▶ ANCHOR PLATES

ANCHOR PLATE	R-32 N	R-32 S	R-38 N	R-51 N
SIZE (mm)	All Sizes	All Sizes	All Sizes	All Sizes
THICKNESS (mm)	10	12	12	40
HOLE DIAMETER (mm)	35	35	41	60
UNIT WEIGHT (kg) (est.)	3,1	3,7	3,6	18,5



## ▶ EXTENSION COUPLINGS

EXTENSION COUPLING	R-32 N	R-32 S	R-38 N	R-51 N
OUTSIDE DIAMETER (mm)	42	42	51	63
LENGTH (mm)	145	190	220	190
UNIT WEIGHT (kg)	0,8	1	1,7	1,9
THREAD TYPE	ISO10208			
CROSSOVER COUPLING (L170mm/L500mm)	R-32 N	R-32 S	R-38 N	R-51 N
OUTSIDE DIAMETER (mm)	55/55	55/55	55/55	-
LENGTH (mm)	170/500	170/500	170/500	-
UNIT WEIGHT (kg)	2,2/7,7	2,2/7,7	2,2/7,7	-
THREAD TYPE	ISO10208			



## ▶ ANCHOR DRILL BITS

CROSS EX/EXX ANCHOR DRILL BIT D51	R-32 N	R-32 S	R-38 N	R-51 N
OUTSIDE DIAMETER (mm)	51	51	74	115
UNIT WEIGHT (kg)	0,42	0,42	1,02	2,3
THREAD TYPE	ISO10208			
BUTTON ES-F ANCHOR DRILL BIT D51/D64	R-32 N	R-32 S	R-38 N	R-51 N
OUTSIDE DIAMETER (mm)	51/64	51/64	-	-
UNIT WEIGHT (kg)	0,44/0,67	0,44/0,67	-	-
THREAD TYPE	ISO10208			



**MOYAGROUP**



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