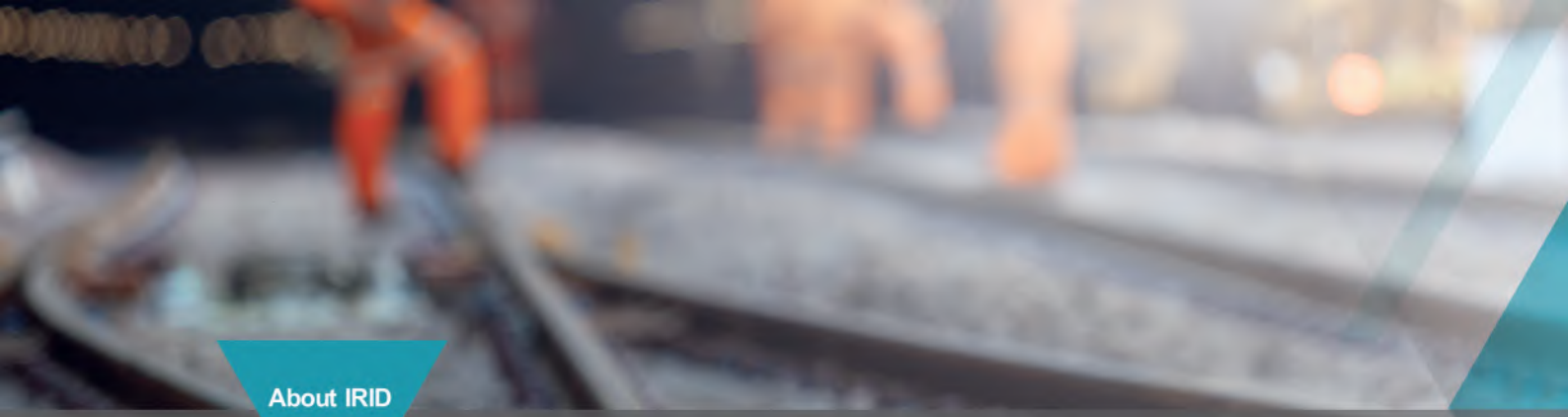


IRID
Iran Rail Industries
Development Company

Iran Rail Industiries Development Co.



About IRID

About Us

Iran Rail Industries Development Company (IRID Co.), was established in 1997 in Tabriz.

The company primarily aimed to design and manufacture rail infrastructure equipment, including railway switches, and fasteners.

IRID Co. began its first major production in 2000 after receiving an order of supplying 900 units of UIC 60 R190 and R300 railway switches from Construction & Development of Transportation Infrastructure Company – an affiliate company of the Ministry of Road & Development.

Iranian railway development plans along with high demands for railway switches and fasteners encouraged IRID Co. to enter into a technology-transfer contract with Vossloh Cogifer to expand its product portfolio and transfer switch manufacturing knowhow.

The cooperation between the two companies leaded to the transfer of manufacturing knowhow of high-speed turnouts, high manganese steel casted frogs and concrete sleepers.

Presently, IRID Co. has an annual production capacity of more than 900 units of railway switches conforming to latest international standards and quality levels.

IRID Co. is equipped with advanced manufacturing machinery – namely gantry CNC milling machines, lathes, boring machines, screw production machines, forging press, as well as jigs and fixtures for switch assembly operations, making IRID Co. the only railway switch manufacturer company within Iran and the Middle East area.

Over the past 25 years, IRID Co. has taken part in 87 mega national projects and has managed to manufacture diverse range of products. The company's portfolio includes 50 distinct products, 20 types of services, and has 2500 railway switches, currently operational at main railway lines, national metro lines as well as Iranian mines and ports.

The growth mindset along with constant seek for proficient staff have given the company extra technological edge.

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Products

Railway Switches (Railway turnout)

Railway switch is a connecting device in the railway system that allows the train to switch tracks.

Each railway switch consists of five thousand parts, of which the railway frog is the key piece.

The safe cross of the train from one track to another is highly dependent on frogs function. High quality railway frog ensures smooth transfer of the train from one line to another. Passengers will not experience any abnormal bumps if the transfer is done in a safe and smooth fashion.

Therefore, choosing high-quality railway frog is particularly important for the safe switch and even the whole railway line.

Railway manganese Frog is a kind of monoblock casting frog with manganese steel. High manganese steel Frog has high strength and good wear resistance and contains high contents of manganese and carbon providing long service life and convenient maintenance.



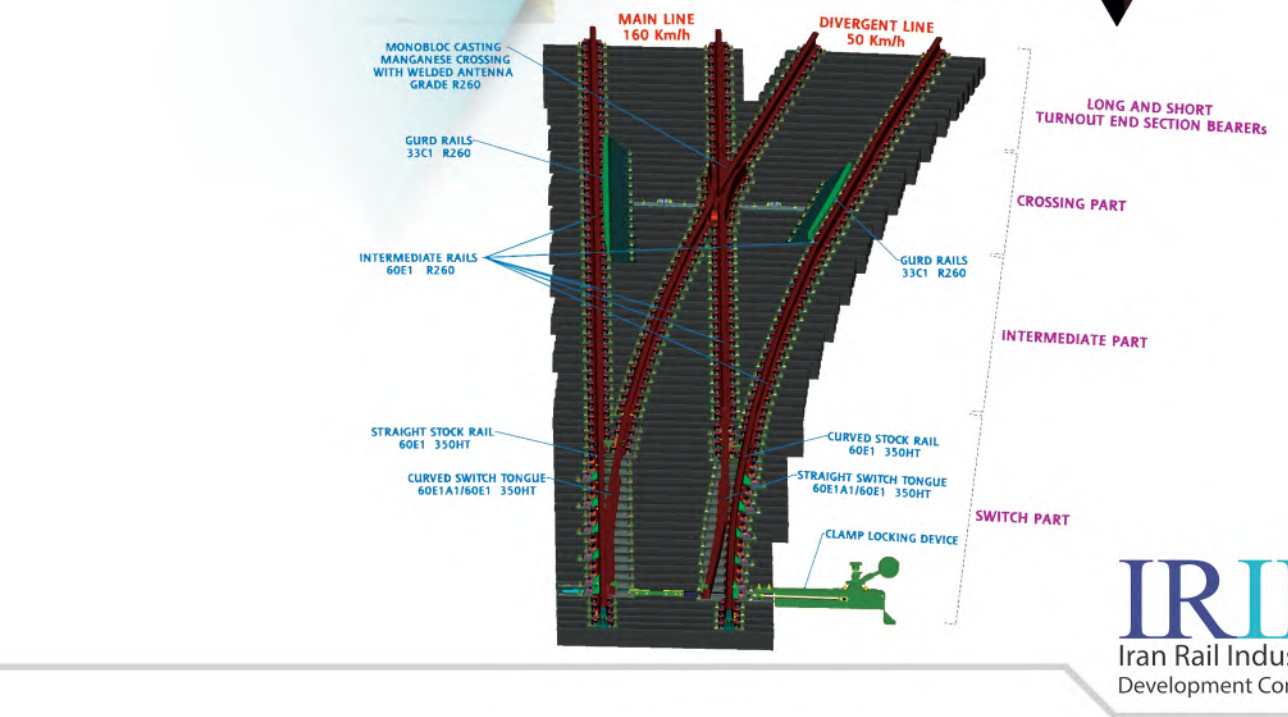
One of the main challenges in manufacturing railway switches is the welding of high manganese frog to normal rail. This is one of the key areas of expertise matured in IRID's Welding Engineering and R&D department. The monoblock manganese frog used in this process is made of austenitic manganese steel in accordance with UIC-866 and EN 15689 standards.

The welding area of the railway switch must suitably function under high impact forces within a wide range of temperature where any welding defect is likely to cause cracks and fractures.

This requires careful and close inspection of all welded areas.

Products




MAIN LINE
160 Km/h
DIVERGENT LINE
50 Km/h
MONOBLOC CASTING MANGANESE CROSSING WITH WELDED ANTENNA GRADE R260
GURD RAILS 33C1 R260
INTERMEDIATE RAILS 60E1 R260
STRAIGHT STOCK RAIL 60E1 350HT
CURVED SWITCH TONGUE 60E1A1/60E1 350HT
CURVED STOCK RAIL 60E1 350HT
STRAIGHT SWITCH TONGUE 60E1A1/60E1 350HT
CLAMP LOCKING DEVICE
GURD RAILS 33C1 R260
LONG AND SHORT TURNOUT END SECTION BEARERs
CROSSING PART
INTERMEDIATE PART
SWITCH PART

List of Railway Switches

Item No.	Rail profile	Crossing angle (Tg)	Radius (m)	Description
1	UIC60	1/9	190	UIC60 Tg=1/9 R=190m
2	UIC60	1/9	300	UIC60 Tg=1/9 R=300m
3	UIC60	1/9	300	UIC60 Tg=1/9 R=300m Heavy haul (Axle load 30 tons)
4	UIC60	1/14	760	UIC60 Tg=1/4 R=760m
5	UIC60	1/18.5	1200	UIC60 Tg=1/18.5 R=1200m
6	UIC60	1/26.85	2500	UIC60 Tg=1/26.85 R=2500m
7	UIC60	1/9	R190	Crossover UIC60 Tg=1/9 R=190 CL=3200 mm
8	UIC60	1/7	R140	UIC60 Tg=1/7 R=140m
9	U33	1/9	190	U33 Tg=1/9 R=190m
10	U33	1/9	300	U33 Tg=1/9 R=300m
11	S49	1/6	50	S49 Tg=1/6 R=50m Rail Cant 0
12	S49	1/6	100	S49 Tg=1/6 R=100m Rail Cant 0
13	S49	1/9	190	S49 Tg=1/9 R=190m Rail Cant 0
14	S49	1/9	190	Crossover S49 Tg=1/9 R=190 CL=3400mm
15	S49	1/9	190	Crossover S49 Tg=1/9 R=190 CL=3750mm
16	S49	1/9	190	Crossover S49 Tg=1/9 R=190 CL=4500mm
17	S49	1/6	100	Special crossover (one right and one left turnout) S49 Tg=1/6 R= 110 CL=3400mm
18	S49	1/9	R190	S49 Tg=1/9 R=190m Rail Cant: 1/40
19	S49	1/9	R190	Crossover S49 Tg=1/9 R=190m CL=3400mm Rail Cant: 1/40
20	S49	1/6	R110	S49 Tg=1/6 R=110m Rail Cant: 1/40
21	S49	1/9	R190	Scissor crossover Tg=1/9 R=190m CL=3400mm Rail Cant: 1/40
22	S49	1/6	R110	Scissor crossover Tg=1/6 R=110m CL=6000mm Rail Cant: 1/40
23	UIC54	0.13	190/150	UIC54 Tg=0.13 R=190/150m
24	UIC54	0.13	190/150	Crossover UIC54 Tg=0.13 R=190/150 CL=3200mm
25	UIC54	1/6	110	UIC54 Tg=1/6 R110m
26	UIC54	1/9	R190	UIC54 Tg=1/9 R=190m
27	UIC54	1/9	190	Crossover UIC54 Tg=1/9 R=190m CL=3200mm
28	UIC54	1/9	190	Bent crossover UIC54 on curved R= 1250m CL=3200mm
29	UIC54	0.13	190/150	Double junction UIC54 Tg=0.13 R=190/150 CL=3200/3600
30	UIC54	0.13	150/190	Double junction UIC54 R190/150 Tg=0.13 CL=3200/3200mm
31	Ri59N	1/6	50	Ri59N Tg=1/6 R=50m
32	PH37	1/6	100	PH 37a Tg=1/6 R=100m

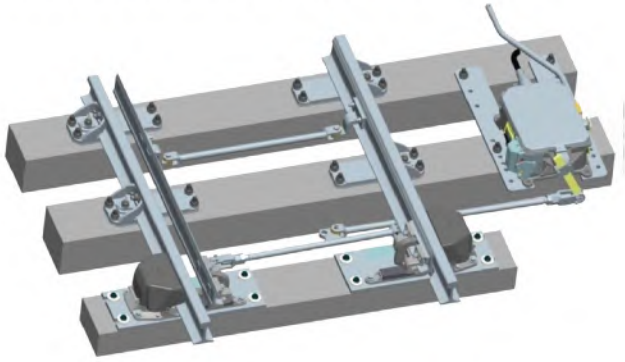


Point Machine

Within the railway industry, a point machine is an electromechanical device that is installed at the switch part of a railway track. The main task of the device is to apply the manuals, preparing the two-railway track in desired direction while controlling the situation on the railway.

Development of the railway industry in Iran has enabled us to witness the use of wide range of point machines at railway lines.

IRID Co. has successfully managed to acquire the knowhow of designing and manufacturing such devices. The device is in high demand among our customers however the type and exact design depends heavily on the type of the railway switches and specific requirements of the client.





switch heating system

Buildups of snow and ice are considered a potential hazard to safe operation of the fleet.

Delays in exploiting railway services due to accidents can be caused by snow and ice buildups .

Thus, the railway switch heating system is vital to ensure safe operation. IRID Co. offers wide range of tailored solutions, suitable for different climates.

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Railway fasteners

A rail fastening system is a mean of fixing the rails to railway sleepers. Generally, a rail fastening system consist of rail base plates, chairs, fasteners, screw, pads, clips, spring washer, etc.

There are strict criteria on the manufacturing processes of rail fastening systems, because they directly relate to the safety of the rail road.

The fastening systems are quite diverse and include those for ballasted and slab tracks under various conditions, and from heavy haul to subway to high speed rails as well as urban rail lines.

Switch Roller System

The switch tongue rail is one of the most important parts of the turnout and determines the direction of the train by sliding on the slide chairs.

The switch roller slide chair makes the switching of the switch rail easier and more efficient. Since no lubrication is required for slide chairs, a lubrication-free, modern turnout can be achieved.







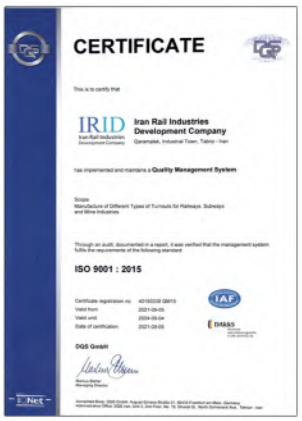


Certificate

Certificate

Certificates:

- ISO 2015 :9001 - Quality management system
- ISO 14001:2015 - Environmental management systems
- ISO 45001:2018 - Occupational health and safety management systems
- IMS - Integrated Management System









Desining and Engineering Capabilities

IRID Engineering capabilities cover a wide variety of services from railway switch design and analysis to design of tools and fixture to machining and casting simulation.

The use of modern analysis software tools guarantees our products capability.

We design and manufacture different types of railway switches, including simple turnouts, crossovers, scissor crossovers, double junctions, high speed turnouts and … ,based on specific needs of our customers.

IRID engineering capabilities:

(I) Designing, modeling and simulation of:

- Various types of modern railway switches.
- Rail machinery and equipment.
- Machining operations.
- Various types of casting molds.
- Forming and forging operations.

(II) Weld design.

(III) Designing special tools, jigs and fixtures

(IV) Designing and manufacturing of wide range of frictional and hydraulic buffer stops.

(V) Designing and manufacturing of different types of anti-creeping system, pads and brake shoes (brake pads) for train fleet.



Workshops

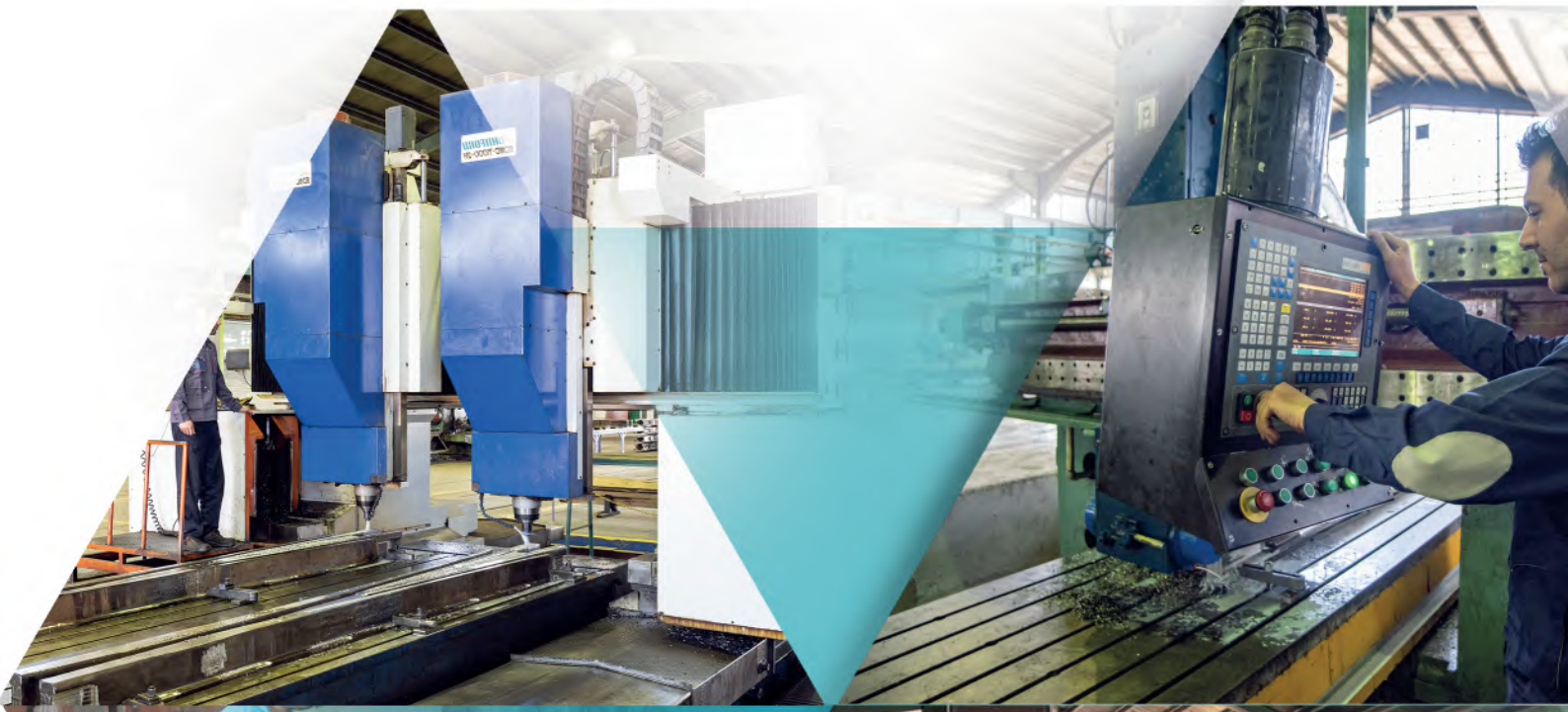
IRID Co. has four workshops. The four workshops are:

1. Machining and assembly workshop with an area of 7500 square meters.

2.Welding and grinding workshop with an area of 1300 square meters.

3. Forging workshop with an area of 1200 square meters.

4.Screws and parts manufacturing workshops with an area of 1600 square meters.





IRID Manufacturing Equipment

- Two-spindle gantry milling machines with a table length of 11 meters.
- Three CNC gantry milling machines with a table length of more than 6 meters.
- Three manual gantry-type milling machines.
- Two boring machines.
- Four band saw machines.
- Mechanical and hydraulic presses.
- Two separate screw production lines with a capacity of 2 million screws per year.
- Universal milling and lathes machines.





CEO Message:

IRID Co. as a knowledge base Company is the only railway switch manufacturer in MENA region. The IRID's mission is to provide excellence to improve the quality of products and to drive sustainability based on environmental protection and international regulations.

IRID Co. is a comprehensive railway switch manufacturer with wide range of products from railway turnout and railway fasteners to point machine and switch heater and forged parts, which are the results of our advanced technology and innovative production capacity.

We offer a complete innovative solution to our customers for railway infrastructure, Our strength resides in our expertise, our production equipment, and our highly motivated and trained people.





IRID

Iran Rail Industries Development Company

- The only Railway switch manufacturer in the MENA Region,
- Annual Manufacturing capacity of 900 units of railway switches
- Engineering and design capability of Railway switches
- Well experienced educated staff
- Modern manufacturing equipment

Major Customers:

- Main line railway
- Metro Lines
- Ports, Mines and Industries
- Steel Companies



IRID

Iran Rail Industries Development Company

+98 41-32863454
www.iridco.ir
info@iridco.ir
iridco.ir

Office: NO.66, Italy Street Cross, Vesal Shirazi Ave, Keshavarz Blvd, Tehran , IRAN
+98 21-88995176
+98 21-88995179

Factory: P.O. Box 143 -518, Opposite of Pumpiran Co, Qaramalek Industrial Region, Tabriz , IRAN
+98 41-32900700
+98 41-32863454,57