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[frisasteel.com](http://frisasteel.com)

# ▶ About Frisa Steel

Frisa Steel is a specialty steel making facility that integrates the best in class technologies and highly qualified personnel to deliver value and competitiveness to all our customers.

We serve a wide variety of markets with top quality steel ingots and forged billets for forging applications. We offer a wide range of grades from carbon, alloy to stainless steels grades.



- ▶ Family owned company
- ▶ Established in August 2016
- ▶ Located in: Monterrey, México

# ▶ Our Expertise

Frisa Steel combines the experience, technical knowledge and best in class technology to offer our customers high quality products and service.

With an annual capacity of 350,000 tons of liquid steel per year, Frisa Steel produces ingots ranging in sizes 13” to 80”, and billets in sizes from 10” to 34”.

## ▶ Round Ingot



- ▶ Diameter sizes from 13” to 39”
- ▶ Weight from 3 to 25 metric tons

## ▶ Square Ingot



- ▶ Ingot dimensions 24” and 49”
- ▶ Weight of 6 metric tons and 28 metric tons

## ▶ Polygonal Ingot



- ▶ Ingot dimensions from 52” to 80”
- ▶ Weight from 26 to 55 metric tons

▶ **We transform  
your steel needs  
into extraordinary  
solutions.**

# ▶ Manufacturing Capabilities

## Certifications

- ▶ Management System ISO 9001:2015
- ▶ PED Certification (Pressure Equipment Directive European Commission)

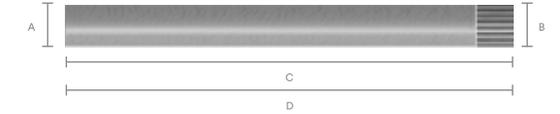
## IT Infraestructure

- ▶ Electronic Document Management Platform (BNEXT)
- ▶ SAP Software
- ▶ Level 2 Software for process control and records

## HSE Certification Plan

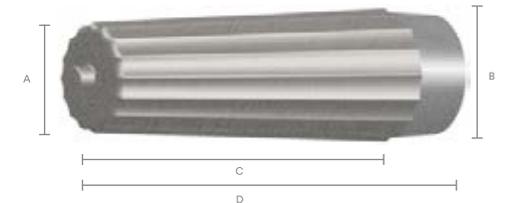
- ▶ PAST: Program for compliance of local regulations concerning Industrial Safety Occupational Health
- ▶ ISO 14000
- ▶ Clean Industry Certification by local authorities
- ▶ Industria Limpia Programa Nacional de Auditoría Ambiental by PROFEPA (Procuraduría Federal de Protección al Ambiente)

## Round Molds



Ingot	Ingots per heat	Dimensions (in)				Weight (lbs)	
		A	B	C	D	Uncropped	Cropped
13 R	16	13	13	188	199	7,165	6,839
16 R	11	16	16	194	201	11,133	10,755
20 R	7	20	20	194	197	17,306	16,797
24 R	5	24	24	179	187	23,369	22,659
31 R	3	31	31	167	181	37,478	35,077
39 R	2	39	39	157	166	54,674	50,382

## Polygonal and Square Molds



Ingot	Ingots per heat	Dimensions (in)				Weight (lbs)	
		A	B	C	D	Uncropped	Cropped
24 SQ	8	24	24	85	94	15,102	13,117
49 SQ	2	39	47	98	110	61,288	53,960
52 P	2	43	51	98	116	57,761	47,767
63 P	1	53	60	128	148	107,364	90,858
69 P	1	59	65	106	128	107,584	91,533
80 P	1	73	79	77	96	126,324	101,191

# Manufacturing Process

<b>Electric Arc Furnance</b>	Heat size: 50MT
	Melting of scrap
	EAF is eccentric bottom tapping (EBT)
<b>Secondary Metallurgical Treatment</b>	Ladle Furnance
	VD - VOD
	Deslagging Station
<b>Ingot Casting</b>	Bottom poured ingots
	Heat Treatment
	Slide gate with 3 plates and Argon injection
	Argon shrouding between Ladle and Casting Trumpet
	Automatic control of casting speed
<b>Heat Treatment</b>	High Alumnia holloware
	Annealing Furnaces
	Slow Cooling Boxes

# Grades

Carbon & Low Alloy Steel		Alloy Steel		Stainless Steel	
1010	ASTM A266	4130	ASTM A182F5	410	347
1018	ASTM A105	4130M	ASTM A182F11	420	321
1020	ASTM A350 LF2	4140	ASTM A182F22	F91	17-4PH
1022	ASTM A350 LF6	42CrMo4	ASTM A707	F9	15-5PH
1035	ASTM A350 F60	4145	CrMoV	F5	F51
1042	ASTM A694V	4150	NiCrMoV	304	F53
1045/50	ASTM A584B	4320	18CrNiMo7-6	316	
1080	X60V	4330/4330V	34CrNiMo6	310	

