



FORGING QUALITY INGOTS



an Steel
f the Art Process Technology



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SALIENT FEATURES OF INGOTS

With Modern facilities already existing for refining, degassing and continuous casting of steel, Sunflag considered it is important to widen the current product mix to cater the needs of specific application segments where ingots are preferred over continuous cast blooms. Accordingly, Sunflag has commissioned new setup for casting Wide End Up – Bottom Poured Ingots. Our ingot casting facility is capable of producing steel for critical applications like Tool & Die, Railways, Defence and Aerospace sector.

INGOT DIMENSION - PHASE 1

Ingot Size (mm)	Ingot Weight, MT
810x610x1970mm	7.2MT
637x480x1700mm	4.2MT
500x402x1700mm	2.7MT
412x323x1700mm	1.8 MT



GRADES

- Regularly Carbon, Cr, Cr-MO & Cr-Ni-Mo grades, as per popular standards like AISI, BS, EN, DIN, GOST, JIS, etc.
- Also against specific TDSs of Customers.

STAINLESS STEEL GRADES

- AISI 410, 420 - Majority for export market (indirect).
- X22, X20, X5, X18, X19 - Energy (Turbine Blades)
- AISI 304, 316, 304L - Defence, Aerospace

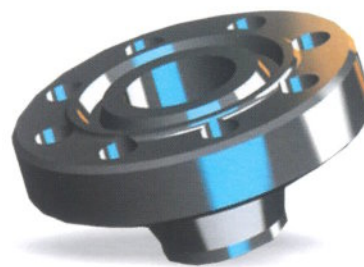
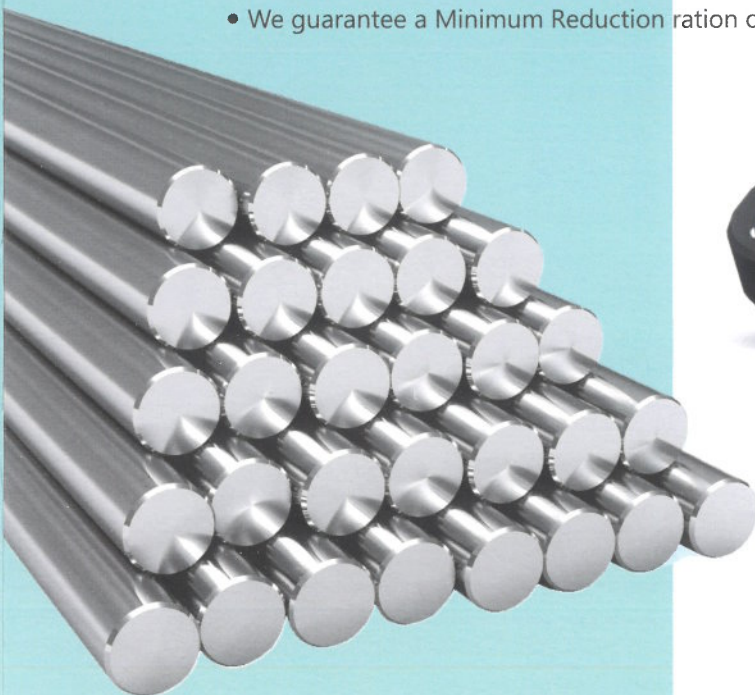
OTHER VALUE ADDED STEEL GRADES

- En36C, En39B, AMS 6418 - Mining / Boring Tools
- En52, 21-4N, SUH 11 - Valve stems
- Din 1.2174, H11, H13 - Die Blocks
- En41B - Screw / Barrels for injection Moulding M/c.

Rolled Products from Ingots

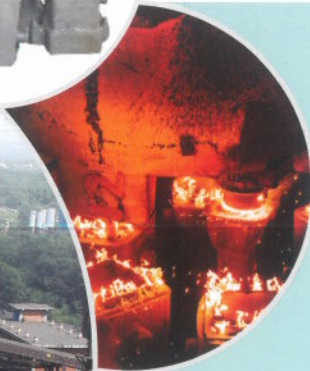
Straight Length Rounds		Round Corner Squares	
Single Rolling	200 to 250mm dia.	Single Rolling	160 to 340mm RCS
Double Rolling	50 to 180mm dia.	Double Rolling	50 to 150mm RCS

- Slow cooling pits are available for control cooling of rolled product.
- Sufficient Top (8%) & bottom (2%) discards are given on rolled bars.
- We guarantee a Minimum Reduction ration of 6:1 for Round products.



UNIQUE ADVANTAGES OF SUNFLAG INGOTS

- Homogenized chemistry within narrow ranges
- Treatment of liquid steel through Vacuum Degassed (VD) / Argon Oxygen Decarburization (AOD)
- Mould powder bags are hung in ingots for better surface finish of ingots (1.5Kg powder / MT of liquid metal)
- Argon flushing of trumpet before cast start
- Argon shrouding of metal flow from ladle to trumpet
- Bricks & Hot Tops preheated for 24hrs at 200°C
- Uphill teaming with central trumpet, with high alumina runner bricks
- Specially designed moulds for ingots to control micro-segregation
- Dressing of ingots before reheating
- Reheating furnace with soaking capacity of 16 ingots
- Slow cooling pits available for controlled cooling
- Sufficient Top (8%) & Bottom (2%) end discards are provided on rolled bars
- Minimum reduction ratio of 6:1 for rolled products



BIS Approved
NABL Accredited Chem & Mech Labs.
ISO 9001 & IATF 16949 Certified by UL DQS
ISO 14001 & ISO 45001 Certified by TUV Nord
AD 2000 Merkblatt: WO / PED Certified by TUV Nord

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