ALL INDIA INDUCTION FURNACES ASSOCIATION

AIIFA

Voice of Indian Sustainable Steel Manufacturing Sector

NEWSLETTER

VOL. No. XXIV

ISSUE No. 1, Jan. 2024

What's Inside

हमारे सभी सदस्यों को 75वें गणतंत्र दिवस की हार्दिक शुभकामनाएँ

AIIFA SECRETARIAT:

504, Pearls Omaxe, Tower-1
Netaji Subhash Place,
Pitampura
Delhi-110034, INDIA
Tel: 011-42725051/27351345
M: 9810410186/9810410815
Email: aaiifa6@gmail.com
Website: www.aaiifa.org
Twitter:
SteelEx_AIIFA
Instagram: steelex_aiifa
Facebook: SteelEx AIIFA
YouTube: AIIFA NEWS

ELITE STEELS PVT. LTD.

Manufacturer of EOT Cranes, Electromagnets and Electro-hydraulic Grabs

Plot no. 13 & 14, Sector 25, Faridabad -121004 (Haryana) INDIA
Tel. +91-1292233170, 2232555
Mob. +91-9350360636
Email. info@elitecranes.com, marketing@elitecranes.com

REGIONAL OFFICES:

Delhi (HO): +91-9873355019
Kolkata: +91-9711302262
Chennai: +91-9890003480
Pune: +91-9311803902

www.elitecranes.com


sentra.world
Get your
CBAM (EU export)
compliance here!
Decarbonising
Steel Manufacturing
Measure, Report, Certify and Reduce CO_2 Emissions
#CBAM reporting
#ADX #DFM #BRSR
#Scope3
#GreenSteel certification
CO_2 & ESG Reporting
Tailored for Steel Industry
Efficient & Cost Effective
sentra.calculus
3,212,653
1.14
sentra.world
contact_us@sentra.world
+91 9667233899

LIFTLINE
INDUSTRIES

YOUR ONE-STOP SUPPLIER FOR ALL NEEDS


Sintering Pre Heater

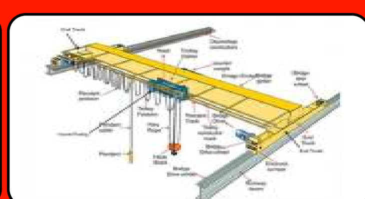
- Sintering Pre Heater
- Ladle Pre Heater
- Tundish Pre Heater

Electromagnet

- Scrap Lifting Circular Electromagnets
- Billet and Bars Lifting Rectangular Electromagnets
- Scrap Lifting Elliptical Electromagnets

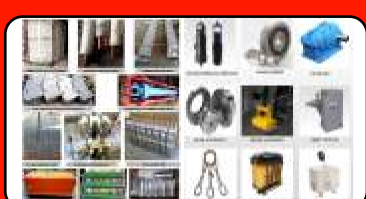

Cable Reeling Drum

- Cable Reeling Drum
- Lining Vibrators
- Electrical Control Panel

EOT Crane

- Single Girder EOT Crane
- Double Girder EOT Crane




Spare Parts & Accessories

- Spare Parts & Accessories of EOT Cranes
- Spare Parts & Accessories For Induction Furnace

Manufacturer & Exporters of EOT Cranes, Scrap Lifting Circular Electromagnets, Billets & Bar Lifting Rectangular Electromagnets, Induction Furnace Electric Sintering Heater, Ladle Electric Pre-Heater, TundishElectric Pre-Heater & All Components and Accessories related to EOT Cranes, Electromagnet & Steel Industries.

LIFTLINE INDUSTRIES

Works Office
Plot No-11, Nichi Mangali, Chandigarh Road,
Ludhiana – 141123, Punjab, India

Phone
+91 7626938310
+91 7626918013
+91 8700055427

Email
liftline8013@gmail.com
info@liftlinecranes.com
sale.liftline@gmail.com

Website
www.liftlinecranes.com

OPTIMUM ROLL PASS DESIGN – THE NEED

P. Mishra
Sr. Executive Director, AIIFA

Numerous sources suggest that after 2010 the necessary greenhouse gases emission reductions will require major technological changes. Limitations of the socio-technical system and the challenge of climate changes will encourage reductions in the production, distribution and consumption patterns. The concept of systems innovation and transitions to sustainability has increasingly gained attention over the past years in academic and policy areas. This prompts the considerations of radical changes in systems.

Manufacture by Rolling is important in industry because over 90 % of metallics are shaped by rolling, and over 80 % of the world's mechanical products are made of metallic materials. Of this volume, steel products dominate, and over 80 % of steel is at some stage processed by means of hot rolling. Hot steel rolling incorporates large-scale man-made systems that modify the quality of immense volumes of chemo-physical solids and consume significant amount of resources. In particular, this industry triggers numerous issues related to global environmental sustainability (pollution and energy emissions).

In the light of the increasing needs for better utilization of natural resources and decrease in both energy consumption and carbon emission, performance of key industrial systems such as hot rolling of steel must be analyzed in search of further improvements. Criteria for optimizing hot rolling of steel include system efficiency, resource consumption, product quality and ecological sustainability.

Roll Pass Design continues to be a highly analyzed issue in hot rolling industry. Roll wear remains a key performance indicator and requires scrutiny. This is because the rolls can be machined at the same costs to generate quite differing groove geometries with significant consequences for both maintenance and operations.

Roll pass design is a set of methods for determining the dimensions, shape, number, and type of arrangement of rolling mill passes. Roll pass design also includes the calculation of pressing forces and their distribution on the roll passes. Several passes are made for each section; a square or round billet or bloom acquires a specified form on each successive pass. The roll passes are designed to avoid excessive stresses in the steel being rolled, since such stresses can lead to the formation of cracks and other flaws.

However, it may be noted that, improper roll pass designs can lead to either **underfill**, which results in the formation of hairline cracks on the surface of the finished bars, or **overfill**, which results in roll overloading and the formation of fins. Hence, it is required to develop a proper Roll Pass Design which ensures the production of correct size and shape of a product with defect free surface and intended mechanical properties, and at the same time ensures maximum output at optimum energy consumption, ease the working conditions of the rolling crew and minimize the roll wear etc. Today computer aided roll design is established for design of roll passes.

OBJECTIVE OF ROLL PASS DESIGN

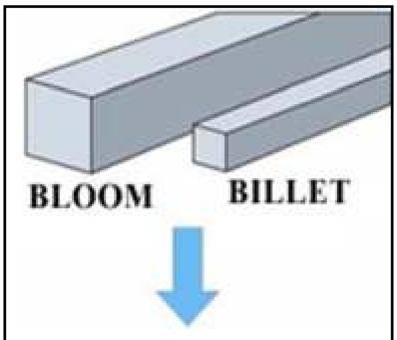
Steel sections are generally rolled in several passes, whose number is determined by the ratio of initial input material and final cross section of finished product. The cross-section area is stock gradually approach to the desired profile. The primary objective of the roll pass design is to ensure production of a product of correct profile within the tolerance limits, free of defects, with good surface quality and the required mechanical properties. In addition, economic condition must be achieved while rolling the product, for example, maximum productivity at the lowest cost, optimum energy utilization, easy working conditions for the rolling crew and minimum roll wear

ROLLING PROCESS

Steel rolling consists of passing the material, usually termed the stock between two rolls driven at the same peripheral speed in opposite directions (i.e. one clockwise and one anti-clockwise) and so spaced that the distance between them is somewhat less than the thickness of the section entering them. In these circumstances the roll grips the material and deliver it reduce in thickness, increased in length and probably somewhat increased in width.

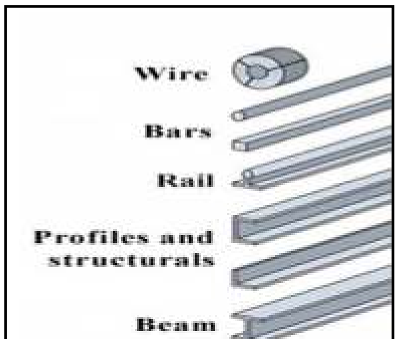
ROLL PASS IS BASED ON

CHARACTERISTICS OF INITIAL INPUT



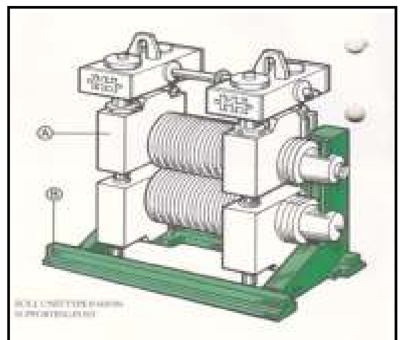
- Dimension and weight of billet
- Grade of steel
- Metal temperature before and in the course of rolling

CHARACTERISTICS OF FINISHED PRODUCT



Dimension of section
Tolerances and specifications concerning to mechanical properties
Surface finish of rolled product

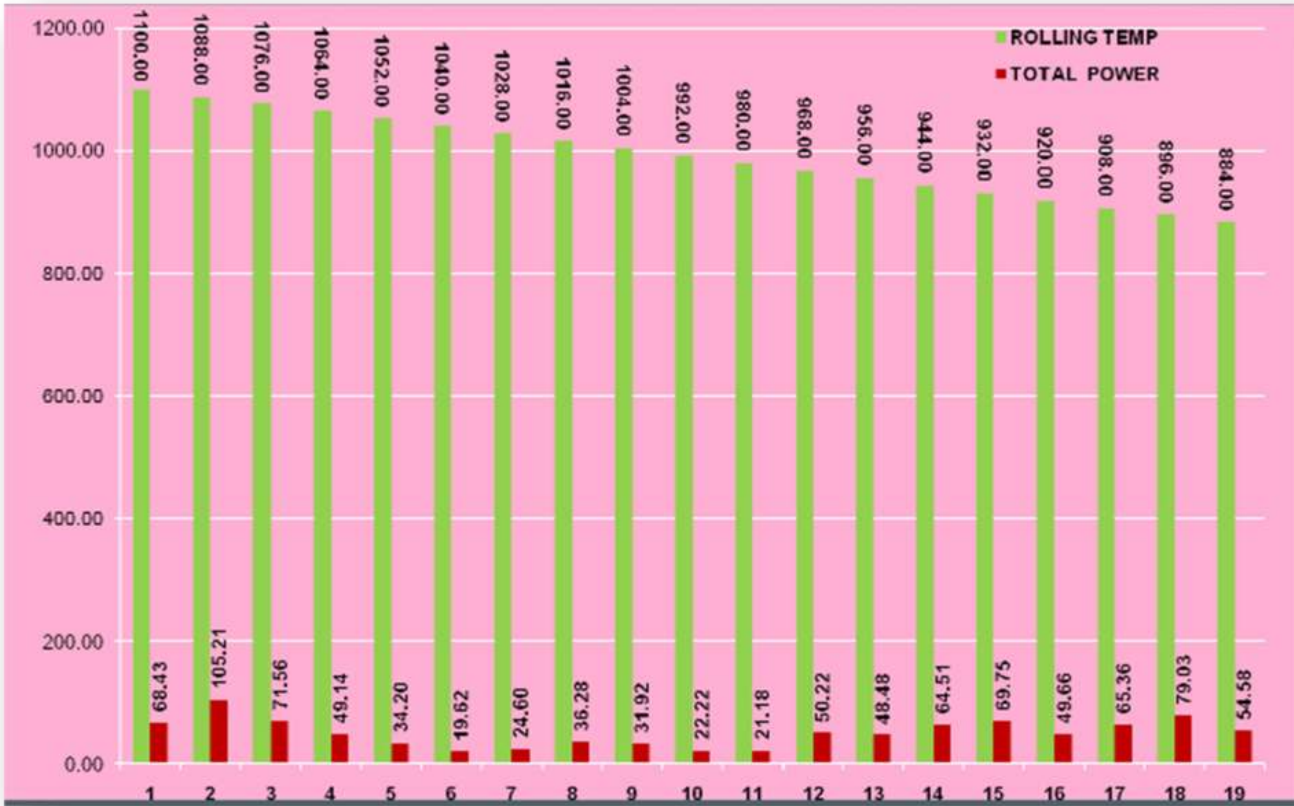
SPECIFICATION OF ROLLING MILL

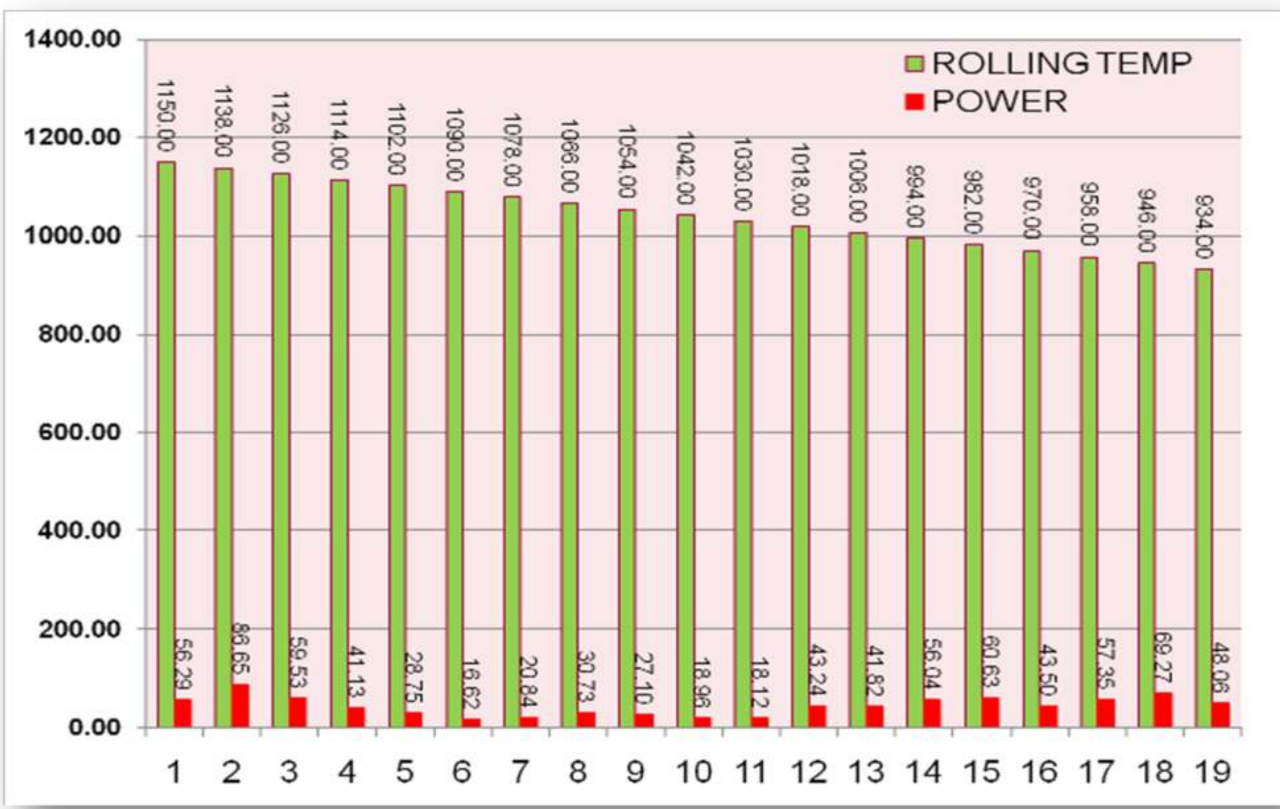


Number of stands
Roll diameter
Rolling speed
Available power of the drive motor
Available mill equipment
Strength of rolls

Other factors which are of important considerations for good roll pass design are rolling load, draft, strain, and rate of heat transfer which do affect the condition of plastic flow of steel material. Further shape of a section in a particular pass must ensure a free flow of steel in the roll gap/groove. Selection of appropriate taper/groove angle in the pass is necessary in order to avoid jamming of steel material in the rolls.

IMPORTANCE OF TEMPERATURE





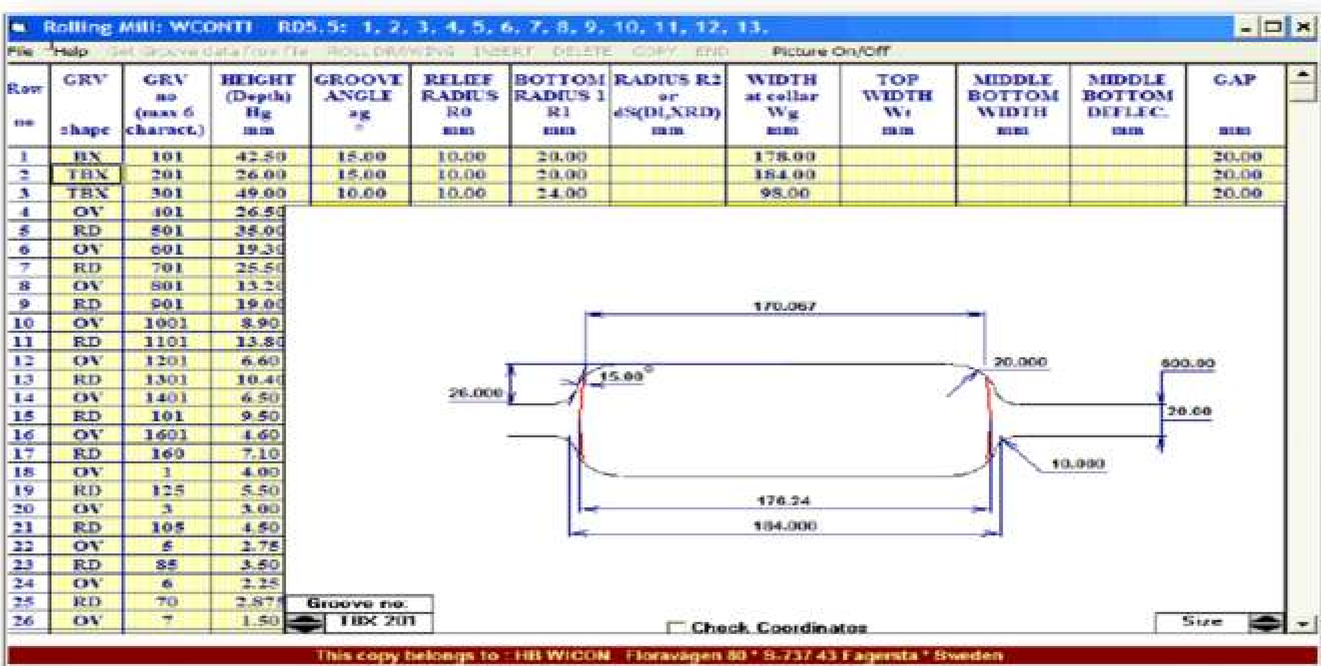
Roll grooves

There are different types of grooves which are used for rolling of sections. Common grooves are rectangular box grooves, diagonal grooves such as squares and rhombic grooves (diamonds), round or false round grooves as well as oval grooves. Grooves can be symmetric, asymmetric and slit. Important parameters of grooves are height (depth), groove angle, relief radius, bottom radius, widths at collar, top, and middle bottom and middle bottom deflection. Usually, a combination of grooves is used in the roll pass design.

Thumb rules

Some thumb rules used in roll pass design for groove angle; relief radius, bottom radius, and fitting are given below:

- ❖ Groove angle for box pass should be 8 to 100 .
- ❖ Relief radius for box pass should be 10 mm.
- ❖ Groove angle for diamond pass should be >900 .
- ❖ Relief radius for diamond should be around 18 mm .
- ❖ Groove angle for square pass should be 450 .
- ❖ Bottom angle for square pass should be around 900 .
- ❖ Relief radius for square pass should be 5mm .
- ❖ Groove angle for oval should be 600 .
- ❖ Relief radius for oval should be 5mm.
- ❖ Groove angle for intermediate round pass should be 600 .
- ❖ Groove angle for intermediate finish round pass should be 300 .
- ❖ Bottom radius for rounds is ½ of dia.
- ❖ Relief radius for rounds is 1/5th of bottom radius .
- ❖ Relief radius for rounds in finish pass should be 1.5.
- ❖ Fitting from oval to round should be 0.3 to 0.7.
- ❖ For ovals width to height ratio should be < 3.0.



BASIC REQUIREMENTS FOR CORRECT ROLL PASS DESIGN

- ❖ Shape of sections in a particular pass must ensure a free metal flow in the roll gap/groove.
- ❖ Appropriate taper/groove angle in pass must be selected in order to avoid metal jamming in rolls.

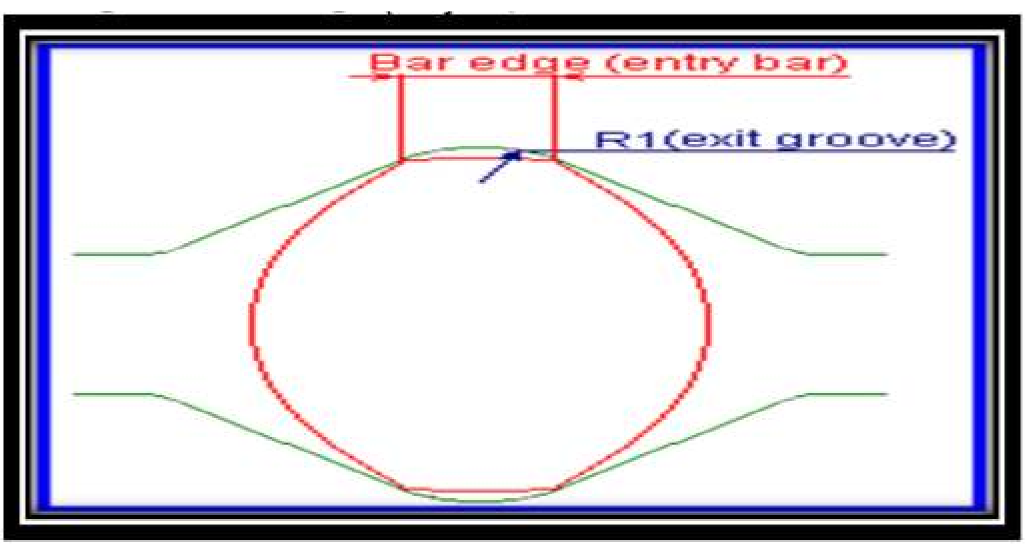
TYPE OF PASS	% TAPER
Roughing pass	6 to 15
Forming pass	3 to 10
Finish pass	0.5 to 3.0%

- ❖ The number and arrangement of passes in particular roll stand should assure the most uniform possible exploitation of all the passes in each stand.
- ❖ Uniform draught in last passes & different draught in early forming passes of profile, where the section is large & metal is hot.
- ❖ Draught should be distributed so as to ensure as far as possible uniform wear and to avoid overloading of drive installations and rolls.
- ❖ Rolls should easily grip the material being rolled

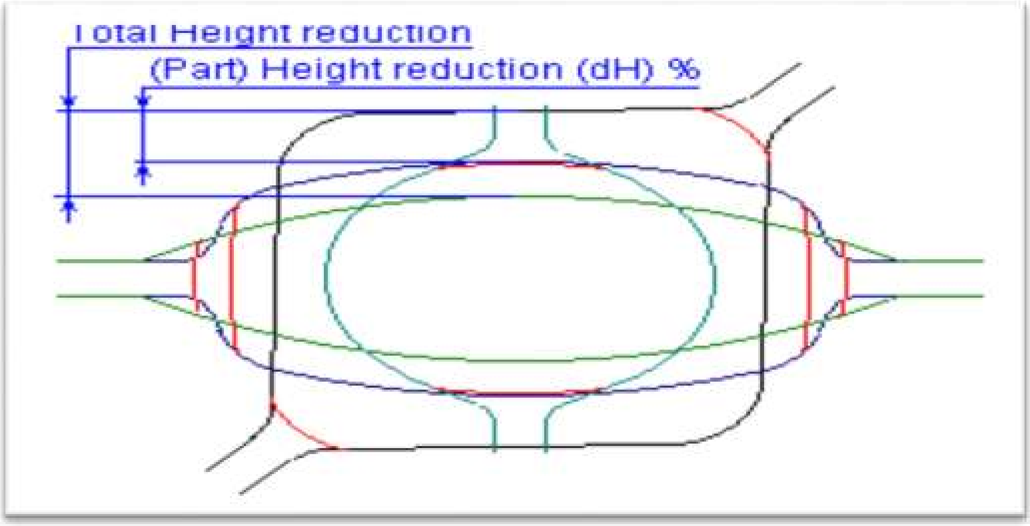
Rolls Finish	Max. Angle of Bite (in degrees) with reference to speed of mill							
	0	0.5	1	1.5	2	2.5	3	3.5
Smooth	25.5	24.5	23.5	22.5	19.5	16	12	9
Edged passes	29	27.5	26	24.5	21	17	12	7
Ragged	33	32	31	30	28	26	24	21

- ***Pass filling should be correct.***

Fitting = Bar edge $_{(entry\ bar)}$ / 2 * Groove bottom radius (exit groove)



The Fitting parameter should be 0.3 < Fitting < 0.7 to avoid problems with bad surface quality and bad wearing conditions of the groove bottom.



An optimum number of passes should be used. If too greater in number lower the output of the roll stand, similarly, too smaller in number Cause excessive roll wear resulting in danger of Roll fracture or Rolling Defect.

Total Elongation Coefficient λ_t at Different Reductions relative to No. of Passes

Pass No.	λ_t for percentage reduction of 5	10	15	20	25	30	35	40
1	1.053	1.111	1.177	1.250	1.333	1.429	1.538	1.667
2	1.108	1.235	1.384	1.563	1.777	2.042	2.365	2.779
3	1.167	1.372	1.628	1.953	2.369	2.918	3.638	4.63
4	1.228	1.524	1.915	2.441	3.157	4.170	5.595	7.72
5	1.293	1.694	2.253	3.052	4.209	5.96	8.606	12.87
6	1.361	1.883	2.650	3.815	5.610	8.52	13.24	21.5
7	1.432	2.092	3.117	4.77	7.48	12.17	20.36	35.8
8	1.508	2.324	3.667	5.96	9.97	17.39	31.31	59.6
9	1.587	2.582	4.313	7.45	13.29	24.8	48.15	99.4
10	1.670	2.868	5.073	9.31	17.71	35.5	74.06	165.7128
11	1.758	3.187	5.967	11.64	23.61	50.7	114	276.2432
12	1.851	3.540	7.019	14.55	31.5	72.5	175	460.4974
13	1.948	3.933	8.256	18.19	42.0	104	269	767.6492
14	2.050	4.370	9.711	22.74	55.9	148	414	1279.671
15	2.159	4.855	11.423	28.42	74.6	212	637	2133.212
16	2.272	5.394	13.445	35.53	99.4	302	980	3556.064
17	2.392	5.992	15.824	44.41	132	432	1508	5927.959
18	2.518	6.658	18.625	55.51	177	617	2319	9881.908
19	2.651	7.397	21.922	69.39	235	882	3566	
20	2.790	8.218	25.802	86.74	314	1261	5484	
21	2.938	9.130	30.369	108.4	418	1802	8435	
22	3.092	10.143	35.744	135.5	558	2575		
23	3.255	11.269	42.071	169.4	743	3679		
24	3.427	12.520	49.497	211.8	991	5257		
25	3.607	13.910	58.257	264.7	1321	7513		

CALCULATION FOR NO. OF PASSES

Input Size = 200x200 mm

Finish Product = 50x50 mm

λ_t =200x200/50x50 = 16

With 25 % Redn. In every pass after

9th pass λ_t = 13.29 and after 10th pass λ_t =17.71.

10 passes will be sufficient with redn. Somewhtat less than 25 %.

Last pass = 5% , λ_t = 1.053

Preleader =10% , λ_t = 1.111

=1.053x1.111=1.168

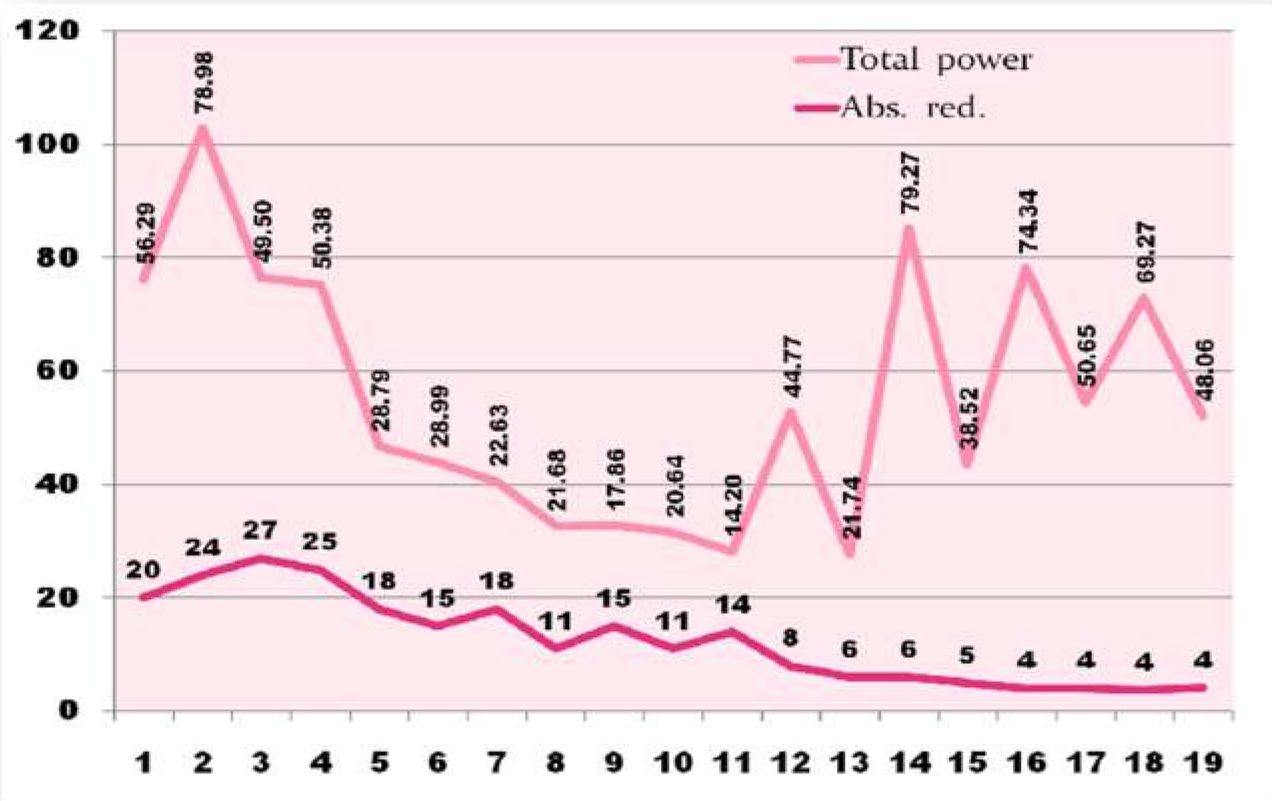
λ_t = 16/1.168 = 13.7

With 30% redn. 13.7 can be achieved after 7 pass or we can say 8th pass.

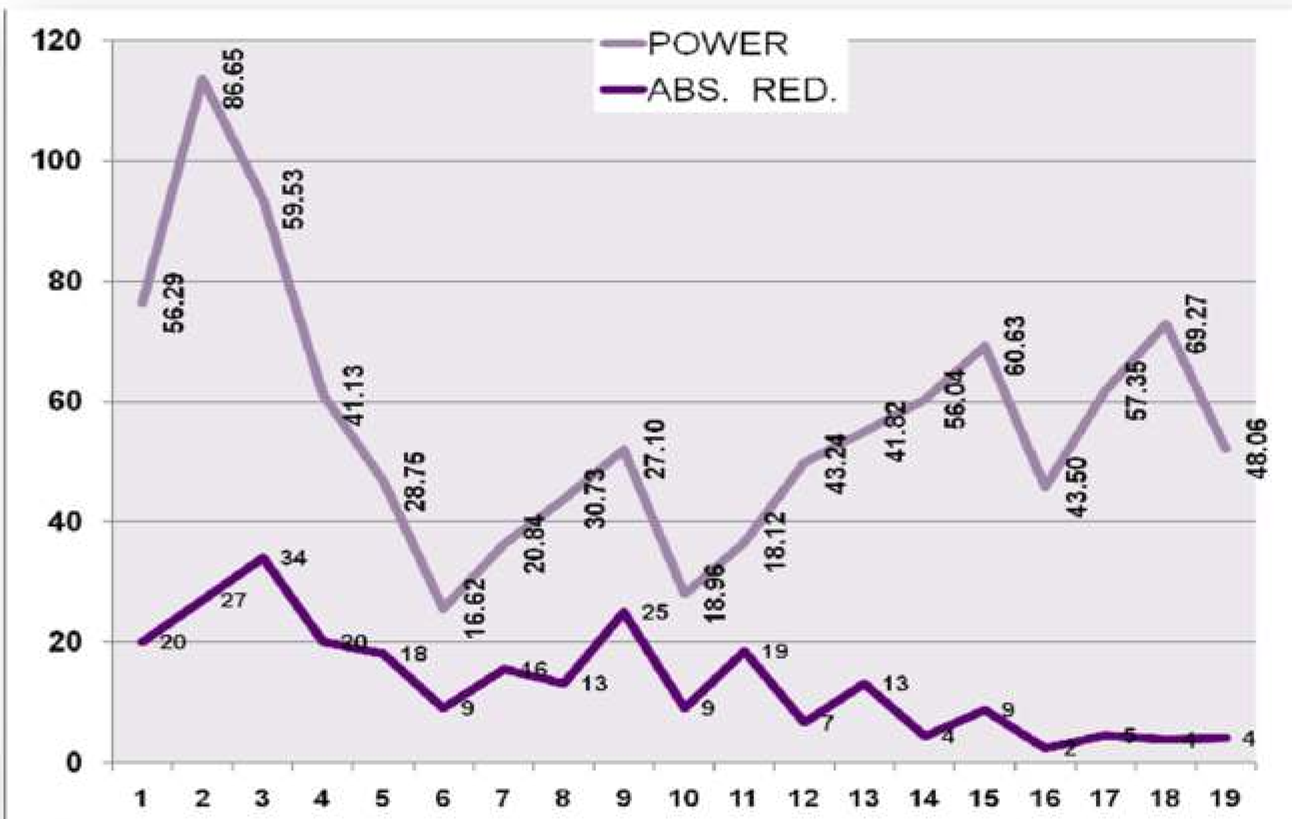
EVALUATION BASED ON ABSOLUTE REDUCTION

Pass no	Pass Shape	Initial width	Initial height	Initial Area	Final width	Final height	Final Area	Mean width	Abs. red.	Pass wise Power(Kw) Required for Deformation
		B	H	Fo	b	h	F1	Bm	dh	
		mm	mm	mm2	mm	mm	mm2	mm	mm	
1	Box	100.00	100.00	9940.00	110.00	80.00	7920.00	105	20	62.32
2	Box	110.00	80.00	7920.00	125.00	58.00	6525.00	118	22	89.01
3	Square	58.00	125.00	6525.00	72.00	72.00	5184.00	65	53	118.12
4	Box	72.00	72.00	5184.00	86.00	50.00	3870.00	79	22	68.48
5	Square	50.00	86.00	3870.00	56.00	56.00	3136.00	53	30	61.50
6	Box	56.00	56.00	3136.00	66.40	40.00	2376.00	61	16	43.82
7	Square	40.00	66.40	2376.00	40.00	40.00	1600.00	40	26	44.70
8	Oval	40.00	40.00	1600.00	48.00	28.00	1055.04	44	12	27.86
9	Square	28.00	48.00	1055.04	29.00	29.00	841.00	29	19	27.37
10	Oval	29.00	29.00	841.00	36.00	20.00	565.20	33	9	18.43
11	Square	20.00	36.00	565.20	20.00	20.00	400.00	20	16	18.93
12	Oval	20.00	20.00	400.00	24.00	15.00	282.60	22	5	28.63
13	Square	15.00	24.00	282.60	14.50	14.50	210.25	15	10	35.09
14	Oval	14.50	14.50	210.25	18.00	9.50	134.24	16	5	64.72
15	Round	9.50	18.00	134.24	12.00	12.00	113.04	11	6	49.95
16	Oval	12.00	12.00	113.04	15.00	7.50	88.31	14	5	98.80
17	Round	7.50	15.00	88.31	10.00	10.00	78.50	9	5	68.42
18	Oval	10.00	10.00	78.50	12.00	6.30	59.35	11	4	81.48
19	Round	6.30	12.00	59.35	8.00	8.00	50.24	7	4	55.38

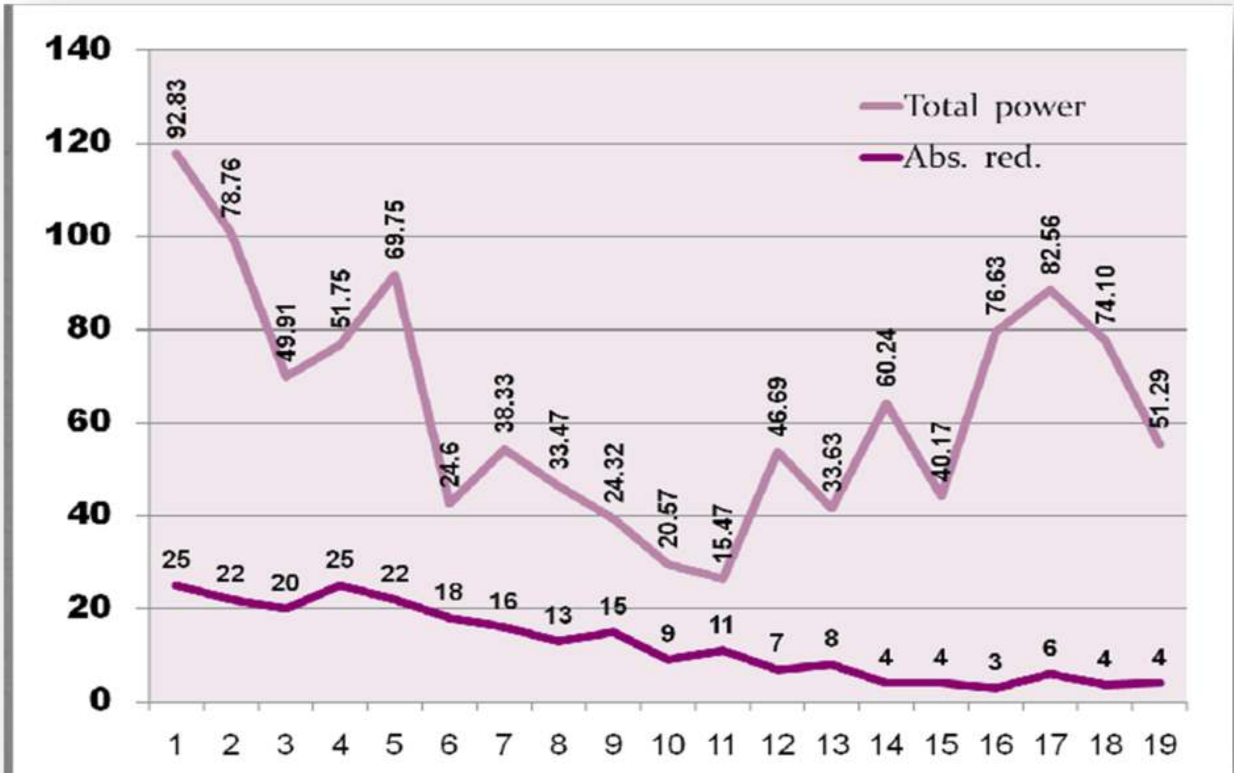
ABSOLUTE REDUCTION AND POWER REQUIRED (Kw)



Total power
Abs. red.
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
56.29
78.98
49.50
50.38
28.79
28.99
22.63
21.68
17.86
20.64
14.20
44.77
21.74
79.27
38.52
74.34
50.65
69.27
48.06
20 24 27 25 18 15 18 11 15 11 14 8 6 6 5 4 4 4 4



POWER
ABS. RED.
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
56.29
86.65
59.53
41.13
28.75
16.62
20.84
30.73
27.10
18.96
18.12
43.24
41.82
56.04
60.63
43.50
57.35
69.27
48.06
20 27 34 20 18 9 16 13 25 9 19 7 13 4 9 2 5 4 4


Total power
Abs. red.


Abs. red.
Total power
Angle of bite

ROLLING OBSERVATIONS

- +T Risk of tilting in the next groove due to too large width
- -T Risk of tilting in the next groove due to too small width
- +F The ratio Bar Edge/Groove Bottom Diameter of the next groove is >0.7
- +O Overfilling (Bar width>Groove Width)
- +W Width of finishing dimensions is more than 1.5% TOO LARGE
- -W Width of finishing dimensions is more than 1.5% TOO SMALL
- +D Sb,Db or Hb of finishing dimensions is more than 1.5% Too Large
- -D Sb,Db or Hb of finishing dimensions is more than 1.5% Too Small
- +L Loop Growth by repeater rolling is TOO LARGE. Tension by block rolling is TOO SMALL
- -L Loop Growth by repeater rolling is TOO SMALL. Tension by block rolling is TOO LARGE
- -N Motor revolution is below the base revolution. Full power is not available

TYPICAL HEATING SCHEDULE

GRPOUP	TYPE OF STEEL	TEMPERATURE, 0C
I	Carbon and low-alloy steels (up to 0.45% C)	1200-1220
II	Carbon, low-and medium alloy steels (up to 0.65%C)	1180-1200
III	Carbon and medium alloy steel (up to 0.9%C)	1140-1160
IV	Carbon and alloy steel; tool and bearing steel (up to 1%C)	1120-1140
V	Carbon and medium alloy steel; tool and high manganese steels (up to 1.3%C)	1100-1120
VI	Nichrome and stainless steels	1200-1220
VII	High-speed steels	1180-1200

MEETING WITH DGGI

All India Induction Furnaces Association

(Voice of Indian Secondary Steel Sector)

504, Pearls Omaxe, Tower-1, Netaji Subhash Place, Pitampura, Delhi-110034 INDIA
Email: aaiifa6@gmail.com Website: www.aaiifa.org
Tel.: 011-42725051, 27351345/47

Shri Anil Gupta, Director of DGGI along with AIIFA Delegation

Shri Vijay Mohab Jain, Commissioner (GST-INV), CBIC along with AIIFA Delegation

All India Induction Furnaces Association
(Voice of Indian Secondary Steel Sector)
504, Pearls Omaxe, Tower-1, Netaji Subhash Place, Pitampura, Delhi-110034 INDIA
Email: aaiifa6@gmail.com Website: www.aaiifa.org
Tel.: 011-42725051, 27351345/47

AA/041/2023-24 Date: 10/01/2024

Brief of Meeting held on 10th January, 2024 with Shri Anil Gupta, Director General of DGGI and Shri Vijay Mohan Jain, Commissioner (GST- INV.), CBIC in connection with the issues as being faced by the steel industry under the Goods and Services Tax regime while procuring steel scrap

A delegation from AIIFA, comprising of Shri Kamal Aggarwal, Hon. Secretary General, Shri Megh Raj Garg, State Chairman, Himachal, Shri Sudhir Goyal, Member, National Council, Shri Pankaj Khaitan, Member, Shri Pawan Kumar Saini, Member, Shri Nimish Bhatia, Consultant, PwC and Shri P. Mishra, Sr. Executive Director had met yesterday i.e.10th January, 2024 with Shri Anil Gupta, Director General of DGGI and Shri Vijay Mohan Jain, Commissioner (GST- INV.), CBIC respectively in connection with the issues as being faced by the steel industry under the Goods and Services Tax regime while procuring steel scrap (an important raw material for the industry) from different dealers both registered and unregistered ones.

- In order to improving domestic sourcing of scrap through better collection system, the delegation of AIIFA said that, the problem arises when scrap is purchased from unregistered dealers, as the collection of scrap starts from local houses and shops from where small traders (kabariye) collect scrap which is paid for in cash as individuals do not have any GST number. The collected scrap from various households is then sold off to a bigger trader (MEDIUM TRADER) again in cash as the sale quantity still do not warrant any GST registration.
- The medium trader then sells it to large trader through cash only even though the sale amount warrants GST registration but since they have purchased this scrap in cash, they are not willing to pay for the same through banks. The large traders when selling to induction furnace or manufacturers they are forced to sell the scrap through invoice only as the induction furnace manufacturers do not purchase the same in cash.
- Sections 16(2)©, 37, 38, 73 of Central GST Act (CGST), a genuine buyer who avails ITC for the amounts paid to his seller (both invoice amount and tax) will be denied credit even when that the seller has disclosed properly his liability in his GSTR 1 return, only for the reason that the seller (who is actually an assessee of the GST regime) has either not claimed his ITC correctly/or has not remitted proper tax through is GSTR 3B return.
- Under these circumstances it is IMPOSSIBLE for buyer ascertain or ensure full compliance at the seller's end. Buyer has no powers under the law over the Seller (assessee of the GST regime). Later, after completion some years, for some unknown reasons, the Input tax credit (ITC) of the buyers is be reversed in GST Ledger and now it will be Buyer's responsibility to pay this GST with interest.

- ❊ Now is even more troubling is that, the buyer instead of being considered as a victim are being considered as an offender leading to cases and penalties being imposed on him. While this happens, the real offenders who have taken the Tax amount from the buyer but not correctly deposited Tax to the Government, are going scot-free
- ❊ In most cases, due to passage of time, the real offenders (assesses of the GST) are untraceable to the GST officials and then they turn towards the Buyers for recourse. Collectively it is estimated to cause a Loss in excess of Rs. 10,000 Crores per year to the Government.

In view of the facts stated above, the delegation suggested the following:

- ❊ In order to plug this loophole which is causing such huge losses and trauma to the industry as well as our country, it is necessary to review once again Section 16 (2) (C) of GST Act and make a necessary amendment in the GST system whereby for the fault of Seller -the Buyer is sought to be penalized.

Or

Reduce GST rate on metal scrap from existing 18% to 5% Steel Scrap, as scrap has no direct end-use and it must necessarily undergo a process of production. Thus, its GST rate makes little difference to the eventual burden on the consumer. GST reduction on scrap will reduce the incentive for fake billing while shifting the burden of tax compliance on manufacturers. This will make the entire supply chain far more tax compliant without any risks to revenue.

Or

Duty on Steel Scrap may be made on RCM basis. This will also have the same effect with burden of tax payment of scrap shifting to where the pinch is likely to be felt. This option may however have implications on such suppliers who generate scrap as part of the production process and may thus lose tax credits.

Or

Levy of GST on supply of scrap at 1% without input tax credit. This option would disable the scrap dealers in the chain to involve in the malpractices of claiming fraudulent input tax credits, and would ensure that the total tax collection to the Government is maximized since the manufacturers will eventually pay GST at the rate of 18% on their output.

It is important to mention here that the limitation of input tax credit is not made applicable to the organized taxpayers who produce scrap such as:

- — Manufacturers where scrap is generated as a by-product during the manufacturing process such as automobiles OEM etc.
- — Ship breaking industry, scrapyards / junkyards

Beside this the delegation also highlight the following which needs proper attention by the government:

- ❊ It is happening presently that industries whose proceedings are initiating by state tax authorities are also getting summons from Central tax authorities as well as other state authorities. Ensure compliance of section 6(2)(b) of the CGST/SGST Act, 2017 according to which once the proceedings have been initiated by the proper officer under the State GST Act as per section 6(2)(b) of the CGST/HPGST Act, 2017 no parallel proceedings shall be initiated by the proper officer of CGST under the Act on the same subject matter.

- It is also happened that State tax authorities of faraway states are summoning industries of located at long distance e.g. Udaipur Zonal Unit is summoning industries of Himachal Pradesh (distance approx. 1000km). As a result, the industry work suffers a lot because it is difficult for an industrialist to attend the proceeding of distant states. Kindly ensure that any proceedings should be done with the help of industries' jurisdictional state so that business should not get suffered.

The overall suggestion of Shri Anil Gupta, Director General of DGGI and Shri Vijay Mohan Jain, Commissioner (GST- INV.), CBIC is as under:

Paying the right amount of tax is a social responsibility towards the nation. As taxes are the main source of Government finance, evasion of taxes hurts everybody & hampers the larger task of nation building. The Government is very conscious of the same. However, the government is also working on the suggestions received from the industry to bring simplicity in the system and hope that we will revert back with a positive solution for industry.

AIIFA Team

SUSHIL'S®

AN ISO 9001 : 2008 CERTIFIED CO.

www.jindaltransformers.com

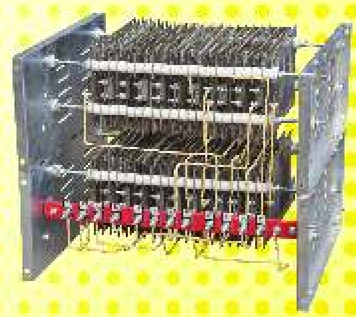
SUSHIL ELECTRICALS

Works & Office : F-9, Phase-VII, Focal Point, Ludhiana - 141 010 (Pb.) INDIA
Tel. : 0161 - 2676733, 2677822 Mobile :+91 - 98140 - 21233
E-mail : info@jindaltransformers.com, sushilelectricals@yahoo.com

Scrap Lifting Circular Electro Magnet - PLC Controlled

Ladle and Sintering Preheater with Bottom Heater

Automatic Servo Voltage Stabilizer & H.T. Transformer

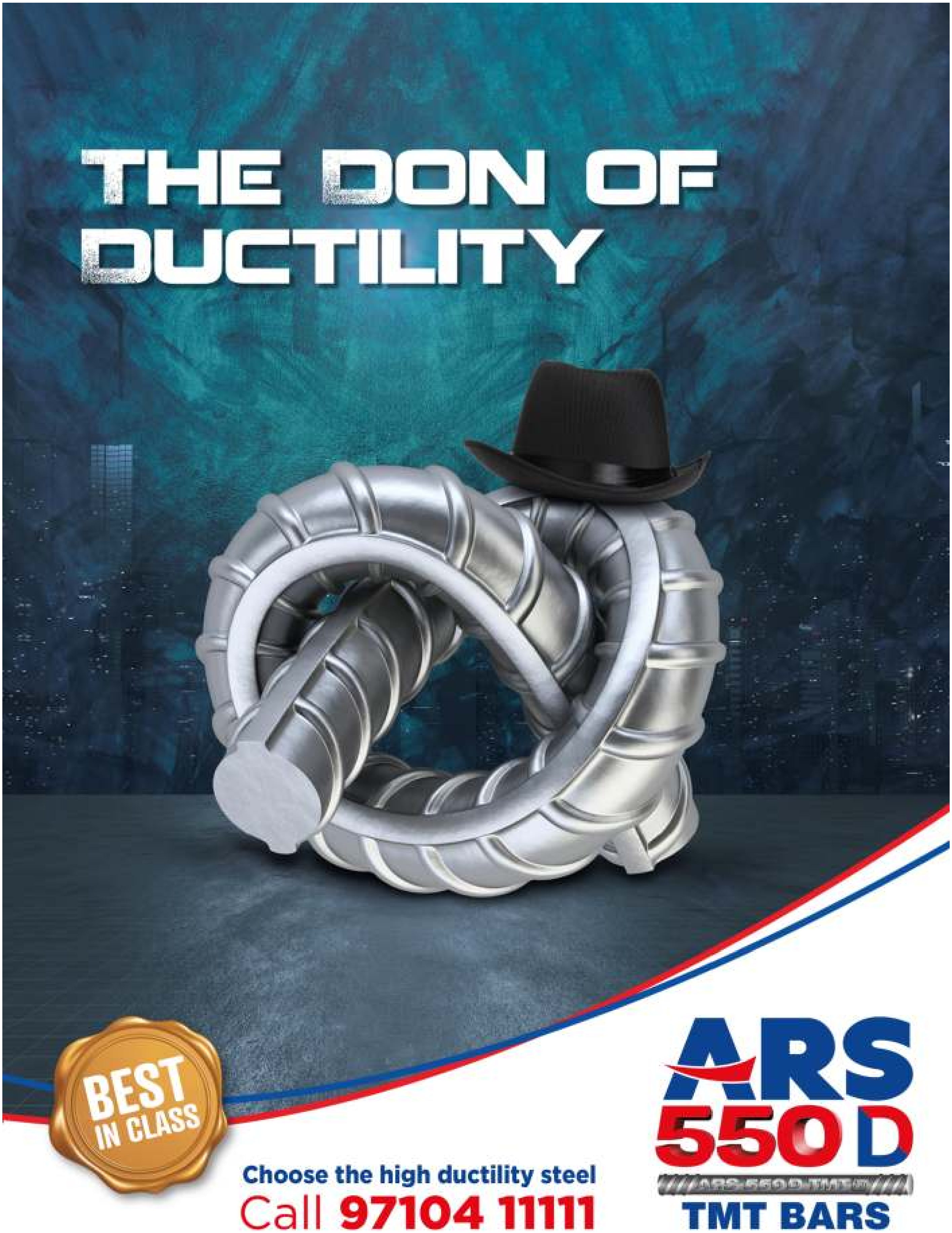


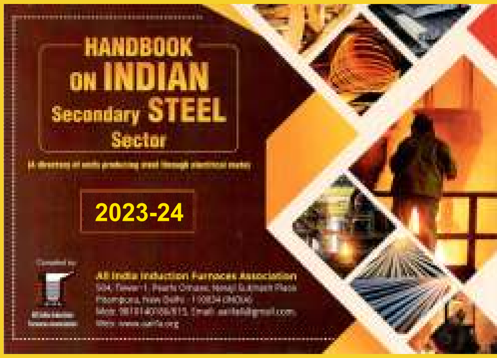
Heavy Duty Punch Grid Resistance Box

Manufacturer & Exporter of Scrap Lifting Circular Electro Magnet PLC controlled, Heavy Duty Elliptical Electro Magnets, Billets & Bar Lifting Rectangular Electro Magnets, Automatic Servo Voltage Stabilizers, Silicon Power Rectifiers, IGBT Base Rectifiers, Ladle & Sintering Preheater with Bottom Heater, Power & Distribution Transformers and Heavy Duty Punched Grid Resistance Box etc.

SARU
AIKOH
CHEMICALS
PRODUCT RANGE
Fluxes
Granular Fluxes
Tablet Grain Refiner
Tablet Degasser & NT Based
Master Alloy Ti, B
Mag Remover
Phosphoreus Copper
Coating G.D.C.
Die Release Agent H.P.D.C.
Plunger Lubricant
Copper & Brass Fluxes
Teeming Compound
Fluxes of Copper, Brass, Lead, Mg , Ferrous & Non Ferrous Metal
ABOUT US
Long Term Support
Strong R & D
Prompt Delivery
Consistent Quality
80 Years of Experience
Export to More than 75 Countries
• Technical Collaborations with M/s Aikoh Co. Japan
• Sales & Distribution with M/s JS Chemical INC, USA
• Technical Collaborations with M/s NTC Japan
SARU AIKOH CHEMICALS PVT LTD.
A-2, INDUSTRIAL ESTATE, PARTAPUR, MEERUT - 250 103 INDIA
el. :0121 2440636, 0121 2440641, +91 7302000969, Fax : +91 121 2440644
E-mail: info@saruaikoh.com, customer.support@saruaikoh.com, Website :- www.saru.co.in


THE HIGHEST POWERED
156 MVA
ARC FURNACE TRANSFORMER
transformers & rectifiers (india) ltd
ISO 9001:2015 | ISO 14001:2015 BS OHSAS 18001:2007
MADE IN INDIA
THE POWER OF WE
Survey No. 427 P/3 4 and 431 P/1 2, Sarkhej Bavla Highway
Village: Moraiya, Taluka: Sanand, Dist: Ahmedabad - 382 213. Gujarat, India.
bijoyen.das@transformerindia.com | marketing@transformerindia.com
transformerindia.com


THE DON OF DUCTILITY
BEST IN CLASS
Choose the high ductility steel
Call 97104 11111
ARS 550 D
TMT BARS



NEW!!!
HANDBOOK ON INDIAN SECONDARY STEEL SECTOR

(a directory of units producing steel through electrical route)

Broadly Covered the following Parameters:

Segment covered: Electric Arc Furnace, Electric Induction Furnace, Rolling & Re-Rolling Mill, Sponge Iron and Ferro Alloy units

Distribution of Units: State-wise

Details Covered: Name of Unit, Factory Address, office Address, Director/ Contact Person with Name, Phone, Mobile No., Email Ids etc.,

Additional Information: Consultants, Equipment Manufacturers, Experts from individual sector

Details of on line payment is given below :

Yes Bank	:	G.F., D. Mall, Netaji Subhash Place
A/c No.	:	018494600000338
IFSC	:	YESB0000184

Claim your copy today:

Contact:

All India Induction Furnaces Association
504, Tower-1, Pearls Omaxe, Netaji Subhash Place
Pitampura, Delhi - 110034 Mob : 9810410186
Email: aaiifa6@gmail.com; web: www.aaiifa.org

Note: Price of Handbook Rs. 20,000/- exclusive of GST with effect from 1st April 2023

ELECTROTHERM®

"The most preferred Steel Plant maker up to 1 Million Ton / Annum"

Total Solution for High Quality Steelmaking through Melting-Refining-Casting-Rolling

Induction Melting Furnace

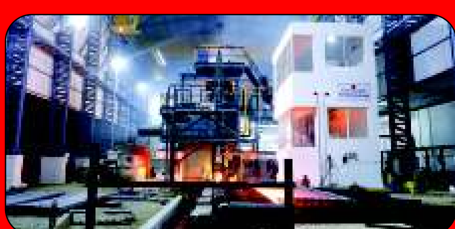
State-of-the-art Digital inverter technology through Fibre Optic Communication (DiFOC) system in Power Supply Units up to 40,000 KW coupled with Ultra-efficient furnace up to 80 ton capacity.

40 MW / 80 ton

Ladle Refining Furnace

ERF® (Electrotherm Refining Furnace) with ELdFOS® technology, a special metallurgical equipment for carrying out de-phosphorization and de-sulphurization in the same equipment.

10 ton to 200 ton



Continuous Casting Machine

- Direct rolling of billets
- Enormous metal saving due to reduced scale loss
- Substantial energy saving
- Reduced material handling
- Improved yield from rolling mill
- Enhanced productivity of plant
- Environment friendly
- Higher profitability

80 mm to 400 mm

Rolling Mill

- Highly advanced and proven European Technology to maximize production, manufactured in India
- Renowned and acclaimed technical as well as OEM partners
- Wide range of supply from conventional to the most advanced equipment
- Proven competency in efficient handling of green field, brown field or revamping projects
- Higher productivity / yield
- Superior product quality

Compact Mill for Bar & Wire-Rod, Structural and Narrow Strip Mill

Toll free # 1800-257-7400

ET®
Engineering & Technologies

ELECTROTHERM® (INDIA) LIMITED
72, PALODIA, (VIA THALTEJ) AHMEDABAD, GUJARAT- 382 115, INDIA
Phone: + 91 2717- 660 550, Email: mkt@electrotherm.com
Website: www.electrotherment.com