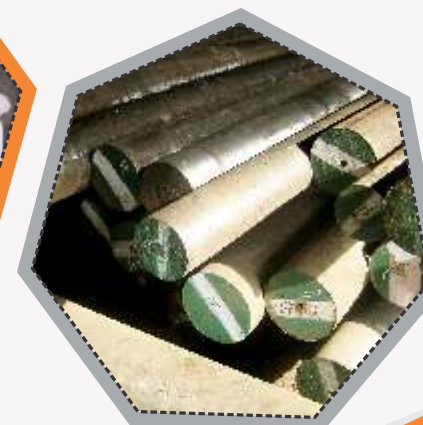
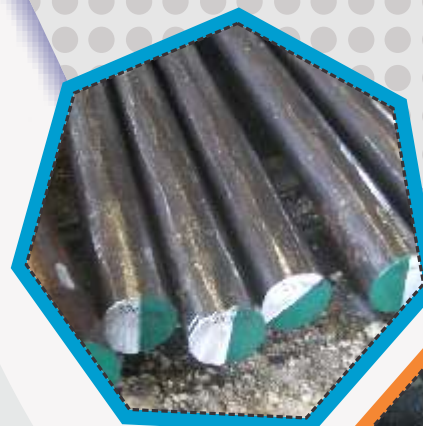


Tool & Die Steel



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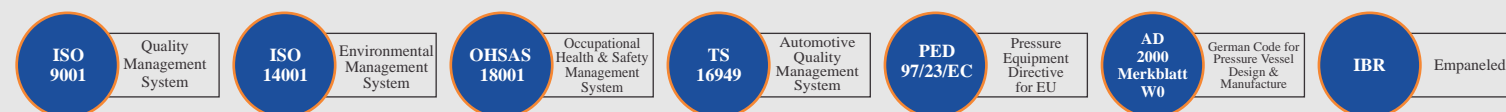
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DEALER'S STAMP

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Certifications

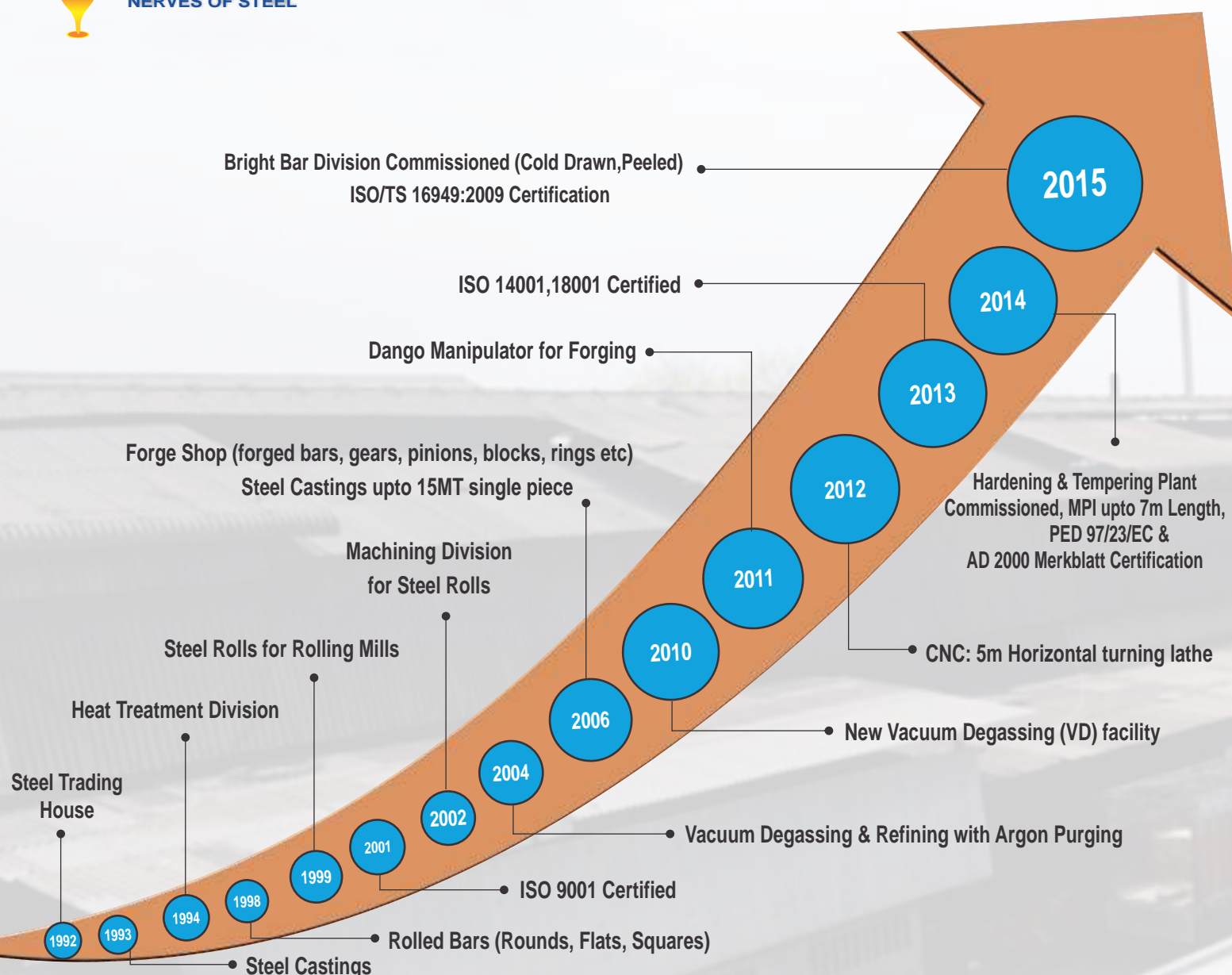


■ Hot Work Steel ■ Cold Work Steel ■ Plastic Mould Steel ■ Die Blocks

"Happiness Lies in the joy of achievement and the thrill of creative effort "



Our Achievements



Chairman's Message

With an aspiration to reach the pinnacle of success and the endeavour to deliver perfection, a dream "KISCO" was conceived

Our Mantra is "Deliver Reliable Products with trust and Commitment"

My aspiration for KISCO is to be recognized as a customer centric company and a quality steel manufacturer in the world. As Chairman, I feel it is my responsibility to deliver on our goals of creating value and generating superior returns for our shareholders. with the support of our board and management team, I am confident that we have the best tools and people in place.

-Kuldeep Goel

Management

Kuldeep Goel

Chairman

Kisco Castings India Limited

Abhishek Goel

B. Tech. (Manufacturing Sc. & Engg.), IIT Delhi

Raghav Goel

MS (Management), Stanford University, USA-2006

B. Tech. (Metallurgy), IIT Bombay (2002)

"Technology is best when it brings people together"



OUR INFRASTRUCTURE

Steel Melting Division

- Crucibles for Steel Melting - 2
- Refining And Vacuum Degassing Ladles - 2
- Vacuum Degassing setup with pumps and blowers
- Temperature and Oxygen Measurement System
- Argon purging system
- Generator set of capacities 125, 230, & 325 KVA for Captive Generation
- Ferro-alloys & bottom pouring set preheating system
- Overhead cranes - 4
- Mobile weighing Scales of 10 and 20MT
- Cored wire feeder
- Scrap bundle Making machine and Scrap Cutting Machine

Forging Division

- Steam hammer capacity 5 MT - 1
- 5MT mobile forging manipulator by Dango and Dienenthal from Germany - 1
- Oil fired heating furnace with capacity upto 20MT capacity - 2
- Overhead cranes - 3
- Three band saw cutting machines for cutting 100mm - 700mm diameter

Heat Treatment Division (API6A/AMS2750)

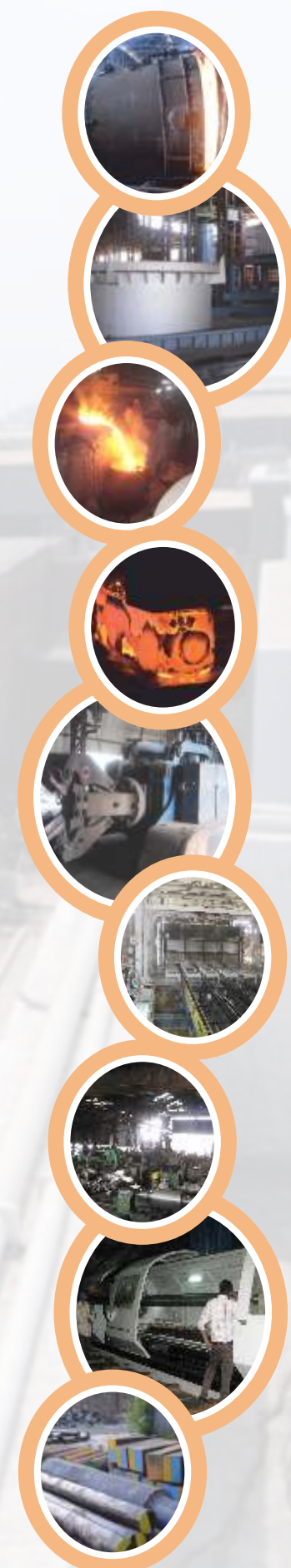
- Heat Treatment Furnace with 6 Point Temperature Recorder (Oil Fired) of different sizes
- Hardening furnace (4m length)- 4MT capacity with oil & water quenching facility with automated charging machine
- Tempering furnace - 15MT Capacity

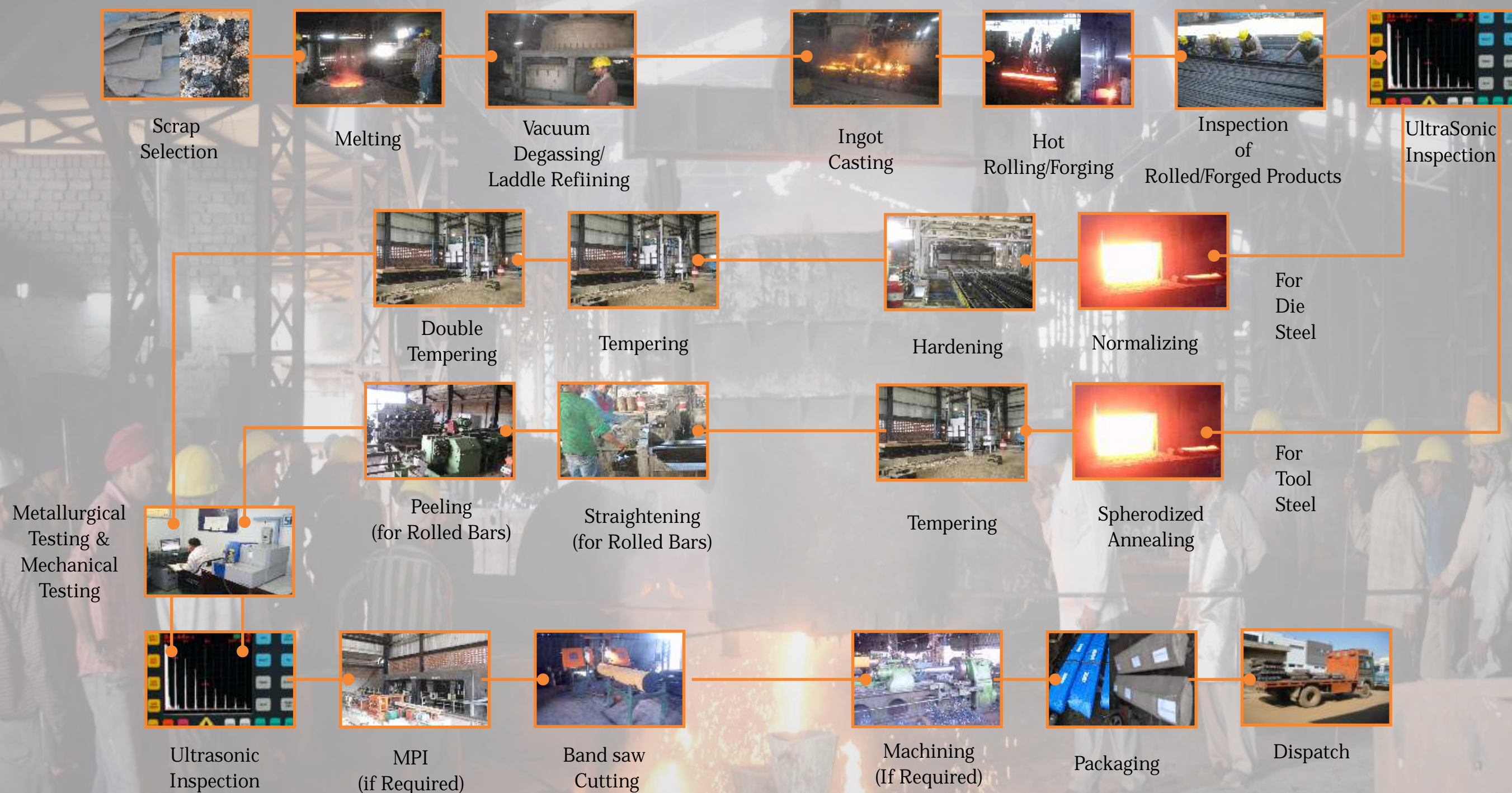
Machine Shop Division

- Lathe Machines, Horizontal 100-1200mm, Length 1000-7000mm
- Vertical Turret Lathe upto 1500MM - 2
- Boring Machine (90 mm Spindle), Horizontal
- Drilling Machine (1.0" Spindle), Radial - 2
- Shaper Machine - 2
- Milling Machines (Horizontal & Duplex) - 2
- Flat bed CNC Turning Machine, Length 5000mm and Max. 12MT

Roll ed Product Division

- Peeling Machines (Peeled Bar) upto 100 mm
- Reeling/Straightening Machines for round upto 100 mm
- Cold Drawing Machines (Bright Bar) upto 100 mm
- Straightening Machines for Square - 12 to 63 mm
- Straightening Machines for Round - 16 to 150 mm
- Band Saw Cutting Machines - 300 mm to 850 mm
- Power hexa Cutting Machines - 160 mm
- Hydraulic Press (for Straightening of Round & Square) upto 150 mm





- Two spectrometers (27 & 31 Channels) by spectro analytical instruments (Germany)
- Fully equipped wet analysis chemical lab
- Ultrasonic flaw detectors with all accessories (EEC, Modsonic)
- Equotip 3 unit D hardness testing (by Proceq, Switzerland)

- Muffle furnaces for accurate testing at temperatures upto 2000 C
- Digital universal testing machine
- Rockness and poldi hardness testing equipment
- MPI any size upto 6000 mm long/ DP testing apparatus by Magnaflux

- Jominy testing facility
- Metallurgical microstructure image analyzer (with all attachments)
- Sample cutting machine
- Impact testing machine with 'V' and 'U' notch

- Moisture meter
- Portable infrared temperature indicator (Raytek, USA) for temperature at any surface
- Micrometers, dial and vernier calipers for dimensional accuracy

NOTE: Calibration Certificates of all equipments are traceable to **NABL**

Material

Chemical Composition

AISI/ASTM	DIN	EN	C	Si	Mn	P	S	Cr	W	Mo	Ni	V
H10	1.2365	32CrMoV12-28	0.35-0.45	0.80-1.20	0.25-0.70	0.03 MAX	0.03 MAX	3.0-3.75	.....	2.0-3.0	0.30 MAX	0.25-0.75
H11	1.2343	X38CrMoV5-1	0.33-0.43	0.80-1.25	0.20-0.60	0.03 MAX	0.03 MAX	4.75-5.5	.....	1.10-1.60	0.30 MAX	0.30-0.60
H12	1.2606	X37CrMoW5-1	0.30-0.40	0.80-1.25	0.20-0.60	0.03 MAX	0.03 MAX	4.75-5.5	1.0-1.70	1.25-1.75	0.30 MAX	0.20-0.50
H13	1.2344	X40CrMoV5-1	0.32-0.45	0.80-1.25	0.20-0.50	0.03 MAX	0.03 MAX	4.75-5.5	.....	1.10-1.75	0.30 MAX	0.80-1.20
DB6	1.2714	55NiCrMoV7	0.50-0.60	0.10-0.40	0.65-0.95	0.03 MAX	0.03 MAX	1.0-1.20	.....	0.45-0.55	1.50-1.80	0.07-0.12

Cold Works Tool Steels

Material

Chemical Composition

AISI/ASTM	DIN	EN	C	Si	Mn	P	S	Cr	W	Mo	Ni	V
O1	1.251	100MnCrW4	0.85-1.00	0.50 Max	1.0-1.4	0.03 MAX	0.03 MAX	0.40-0.60	0.40-0.60	.....	.....	0.30 Max
O2	1.2601	90MnCrV8	0.85-0.95	0.50 Max	1.4-1.8	0.03 MAX	0.03 MAX	0.35 Max	.....	0.30 max	0.30 MAX	0.30 Max

Plastic Mould Tool Steels

Material

Chemical Composition

AISI/ASTM	DIN	EN	C	Si	Mn	P	S	Cr	W	Mo	Ni	V
420	1.2083	X40Cr14	0.36-0.42	1.00 Max	1.00 Max	0.04 MAX	0.03 MAX	12.50-14.50	.....	.....	1.0 max	.....



Hot Works Tool Steels

Heat Treatment Details

AISI/ASTM	Application	Annealing (Slow Cooling)	Quenchant (Hot Bath)	Quenching Temperature	Tempering (Air Cooling) Temperature	Annealed (HB-MAX)
H10	Hot forming(forging) dies for processing heavy metal	820-870	OIL	1000-1050	500-600	230
H11	Hot extrusion tools, tools for manufacturing screws,nuts,bolts etc.	750-800	OIL/AIR	1000-1040	500-600	240
H12	Press forging dies, extrusion tools etc. with good wear to resistance	800-870	OIL/AIR	1000-1050	500-600	230
H13	Die Casting tool & extrusion tool for Al,Zn.Mg,Shear Blade, Plastic Mould etc.	800-850	OIL/AIR	1000-1050	500-600	230
DB6	Large Size Die Blocks, Moulds Subject to low pressure, chill moulds for gravity casting,plastic moulds, containers and dies for extrusion, blosters & injection moulds	680-700	OIL/AIR	830-890	500-600	248

Cold Works Tool Steels

Heat Treatment Details

AISI/ASTM	Application	Annealing (Slow Cooling)	Quenchant (Hot Bath)	Quenching Temperature	Tempering (Air Cooling) Temperature	Annealed (HB-MAX)
O1	For Deep Drawing Gauges	750-780	OIL	800-850	150-200	220
O2	Tools, Gauges and Measuring Instruments	680-720	OIL	790-820	150-200	220

Plastic Mould Tool Steels

Heat Treatment Details

AISI/ASTM	Application	Annealing (Slow Cooling)	Quenchant (Hot Bath)	Quenching Temperature	Tempering (Air Cooling) Temperature	Annealed (HB-MAX)
420	Moulds for Corrosive plastic materials such as PVC, recycled polymers & holding blocks	600-780	OIL/AIR	980-1050	250	230

Technical Literature for Die Steel

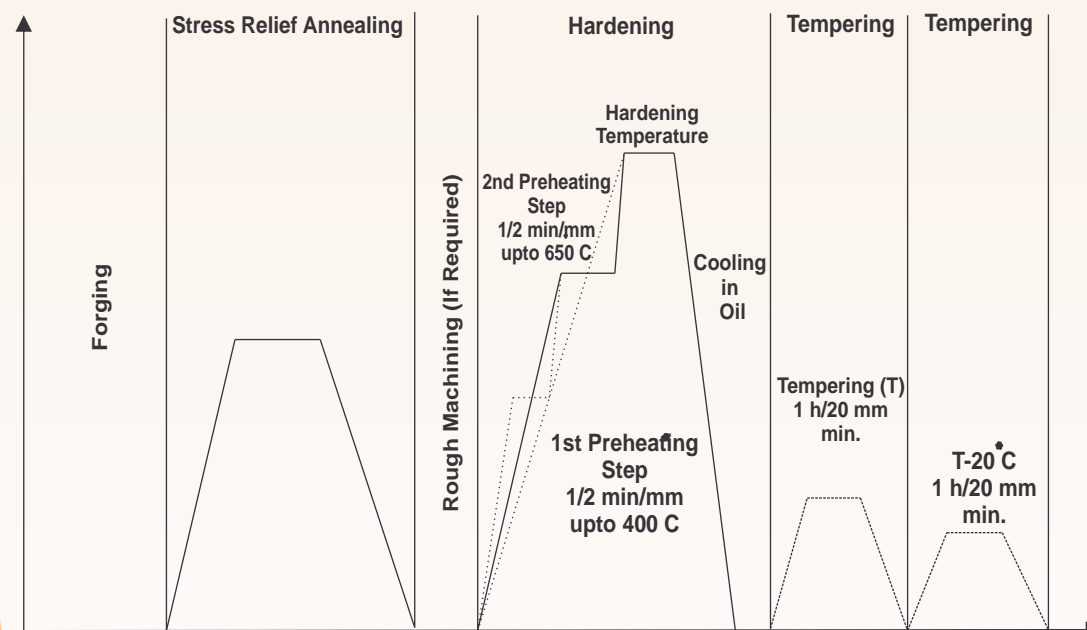
Close Die Forging Route

Type of Die	Hammer Application		Press Application	
	Material Grade	Hardness (BHN)	Material Grade	Hardness (BHN)
Solid Die	DIN 1.2714	340-385	DIN 1.2714DIN 1.2344	340-385 400-440
Inserts	DIN 1.2714	340-385	DIN 1.2714	380-425
Extrusion Dies	DIN 1.2714	340-385	DIN 1.2365	410-425

Secondary Tools

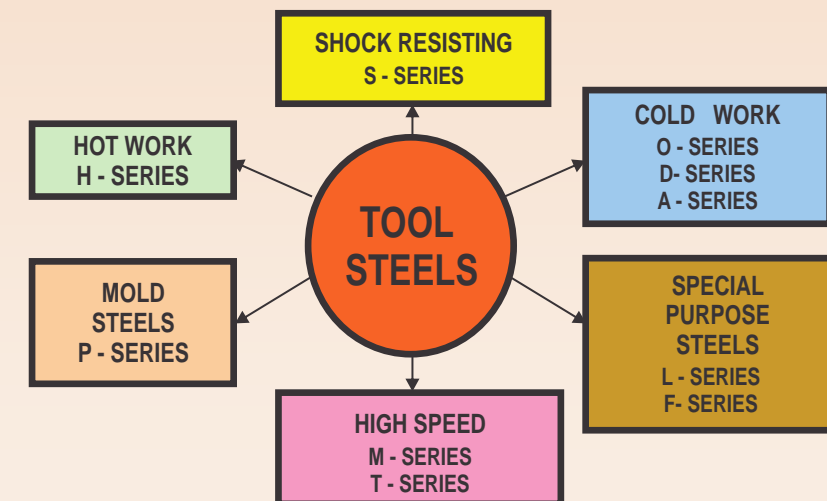
Type of Tool	Material Grade	Hardness (BHN)
Die Holders for Hammers	DIN 1.2714	350-400
Ram, Sowblock & Pistons	DIN 1.2714	280-325
Die Holders & Cassettes in Press	DIN 1.2714	280-325
Packing Plates in Press	DIN 1.2714	380-425
Trimming Dies	DIN 1.2714	350-400

Thermal Cycle Diagram (DIN 1.2714/DB6)



Technical Literature for Tool Steel

Types of Tool Steel



H11 Vs H13

H13

- Nice advantage of being weldable for mold repair
- Deep Hardening
- Heat Resistant
- Stays mainly with die industry
- Die casting tool

H11

- Even more amenable to welding
- Not as deep hardening as H13
- Not as heat resistant as H13
- Stays mainly with mainstream mechanical components
- Manufacturing of Screws, Nuts, Bolts etc.

PRODUCTS

Rolled (Round, Square, RCS, Flats)

Grade	H10, H11, H12, H13, DB6, O1, O2, SS420, OHNS
Size	20 mm TO 50 mm
Length	UP TO 6m
Supply Conditions	Rolled, Heat Treated & Peeled

Forged (Bars, Flats, Shafts)

Grade	H10, H11, H12, H13, DB6, O1, O2, SS420, OHNS
Size	50 mm TO 300 mm
Length	1m to 6m
Size (Flats)	Width : 100 mm - 500 mm Thickness : 150 mm - 300 mm
Length	5m upto 8MT Single Piece
Supply Conditions	Forged, Heat Treated & Proof Machined

Die Blocks

Grade	Db6, EN24(H&T), EN19(H&T), 420(H&T)
Size	All Different Size

