



NEW PLATE MILL RSP, SAIL





SAIL is India's largest steel maker. Its leading role in the Indian steel industry ensures availability of robust knowhow and expertise to produce a wide variety of prime steel products like Plates, Hot and Cold Rolled Sheets/Coils, Bars, Structurals, Rails, Pipes, etc., for numerous applications. SAIL is continuously striving to ensure production of expected quality of materials for its customers through investments for technology upgradation, research & development and services.

SAIL produces various special grades of steel, including high strength quenched and tempered Plates for Defence applications at its Rourkela Steel Plant. With the recent installation of a new state-of-the-art Plate Mill along with world-class steel production facilities, RSP is now in a position to supply a wide variety of Plates with consistent dimensional tolerance that meet the stringent quality requirements of end-users.

The 1.0 million tonnes per annum capacity New Plate Mill at RSP is equipped with the latest technology from Danieli & SMS Siemag. Capacity of this mill will be increased to 1.8 MTPA in the next phase of modernisation.



PRODUCTION PROCESS

The new plate mill of 1.0 MTPA capacity in Phase-I (to be increased to 1.8 MTPA in Phase-II of modernization) has been commissioned at RSP. Steel slabs are produced following stringent quality control through continuous casting with secondary refining facilities RH, LHF, VAD, etc. in Steel Melting Shop. These slabs are charged in walking beam furnace. The new plate mill is equipped with latest technology from Danieli of Italy and SMS Siemag of Germany.

Plates are flat, hot rolled, finished products that fall within the thickness range of 6 to 100 mm. The major processes followed for plate rolling:

- Walking beam type reheating furnace of capacity 225 t/hr
- Primary descaling at 220 kg/cm² water pressure
- HAGC, PVR, roll bending & shifting, profile thickness gauge
- Quick roll change facility
- Thermo mechanical controlled rolling
- Accelerated controlled cooling
- Hot leveller with HAGC
- Hot and cold marking machines
- Online UST machine
- Level-II automation
- Double side trimming shear upto 50 mm
- Cold leveller
- Magnetic piler
- Storing & traceability facility

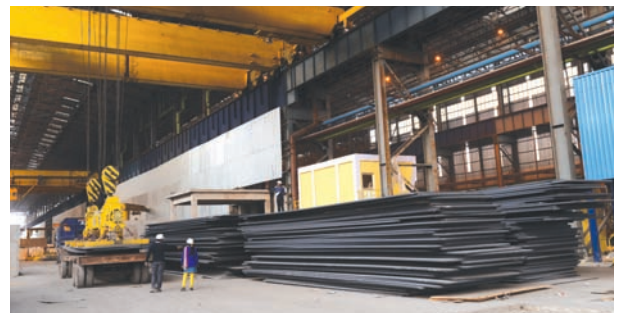
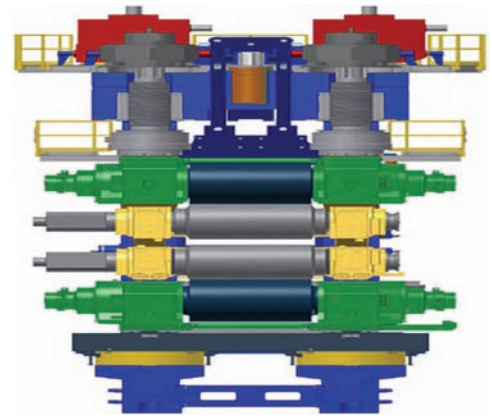
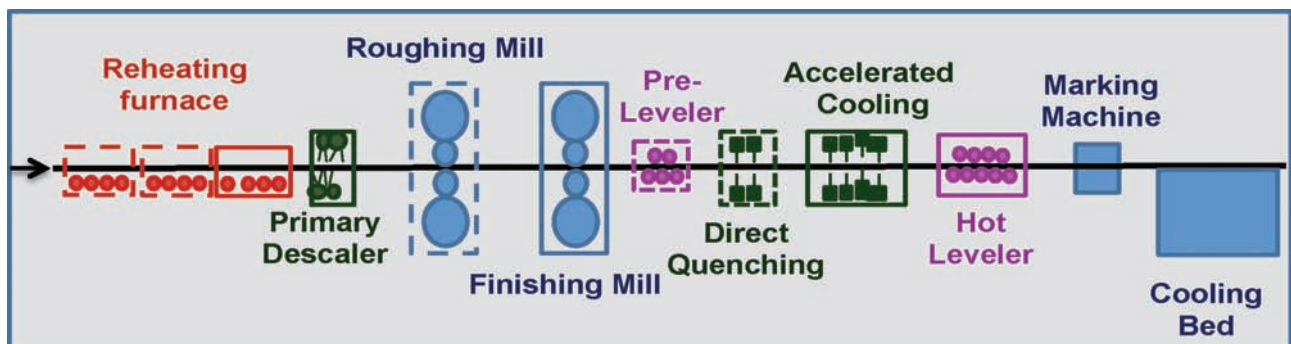


PLATE MILL TECHNOLOGICAL LAYOUT

4.3 METER WIDE FOUR HIGH SINGLE STAND REVERSING MILL



Capacity : Phase – 1 : 1 mt, Phase – 2 : 1.8 mt : Machines with dotted boundary will come in Phase - 2

Input Slab Dimension:

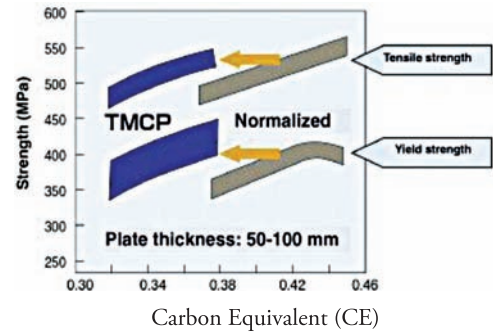
Thickness (mm)	Width (mm)	Length (mm)	Weight (Ton)
210-300	1200-2400	2600-4100	23.2 max.

Output Plate Dimension:

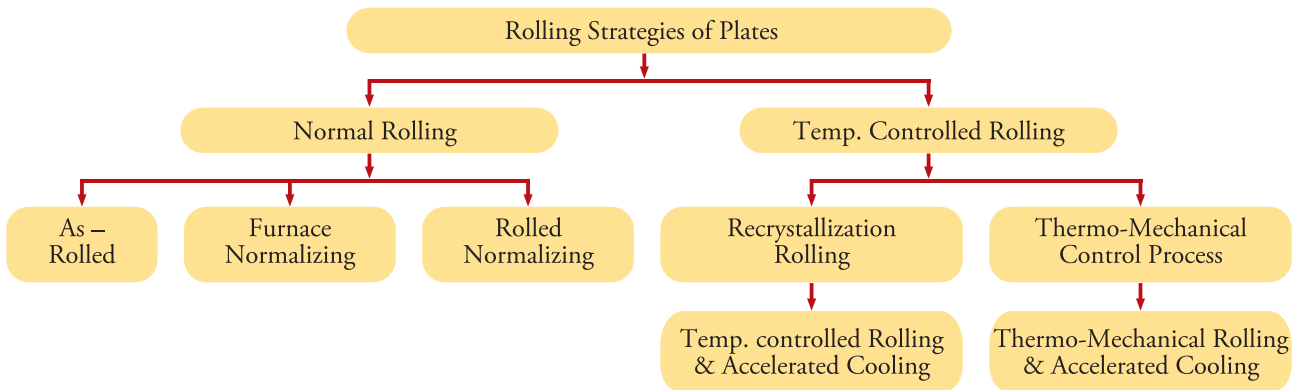
Thickness (mm)	Width (mm)	Length (mm)	Finished Length (mm)
6-100	1500-4200	7000-42000	6300-15000

Product Attributes

- Metallurgically sound plates because of high shape factor rolling (90000 kN roll separating force)
- Plates with a wide range of properties can be produced through TMCP (thermo mechanical cooling process). Graph on the right shows that same strength can be achieved with TMCP with much lower CE compared to Furnace Normalised Plates
- High degree of rectangularity ensured by Plan View Rolling (PVR) Ensured Close dimensional tolerances by Roll Bending and Shifting technologies
- Excellent surface finish



A wide range of products catering to the requirements of ship building, line pipe, yellow goods, boilers and pressure vessels, defence, construction and wind engineering sectors can be made within close tolerances and excellent surface finish.



Available Grades:

IS 2062 E 250/300/350, A, Br, B0, C - With or Without Cu
 IS 2062 E410 A, Br, B0, C/E 450 A, Br.
 IS 5986 – 165/205/235/255/325/355/420/490 & 560.
 ASTM A 36
 Boiler & Pressure vessels steel - IS 2002, All Grades
 ASTM 515/516 all grades & Indian equivalent
 ASTM 537 CL-1, ASTM 202
 Ship Building - Lloyds Gr A, B.
 API 5L Grade upto X -70.
 All international standards confirming to above also.

Technical Delivery Condition :

- Plate weight : 7.2 mt to 15 mt
- Trimmed/Un-trimmed condition
- Ultrasonic testing up to ASTM 578 C
- Up to 50 mm in Shear cut edge
- >50 mm Plates with Flame cut
- Furnace Normalising can be accepted as per specification up to 800 kg/meter length and with width up to 2500 mm

Applications

Line pipe

High strength steel plates for line pipes carrying different fluids, gases (including sour gas) and offshore structural application.

Grades: API 5L GRADE (UPTO X-70)



Yellow Goods

- High strength steel plates with superior toughness for structures like truck body, arm and support structures
- High abrasion and wear resistant steel plates for structures like shovels, quarries & mine equipment, crushers, buffer bins including import substitution for grades like HARDOX.

Grades: SAIL HITEN 690AR, IS 2062 E350, E 410, E450

Boilers and Pressure vessels

- High strength alloyed steel plates for sub-critical to super-critical boiler applications
- High strength plates for high pressure applications
- Normalised plates for low-temperature applications

Grades : IS 2002 (all grades), ASTM 515/516 all grades, ASTM537 CL-1, ASTM 202, ASTM A387



Defence

- High strength, hardness, toughness and anti-ballistics plates for armour tanks, mine protective vehicles
- Ultra high strength and toughness, bullet proof plates for personal and vehicle protection
- Special alloy steel plates for naval warships, submarines, etc.

Grades : DMR 249 GR-A/B

Construction and Fabrication

- Ultra high strength and tough steel plates for dams, bridges, buildings, power plant structures, penstock
- Atmospheric corrosion resistant steel plates for offshore platforms, bridges
- Seawater corrosion resistant steel plates for bridges, offshore platforms, structures

Grades : IS 2062 E250/300A, BR, B0, C, E350 A, BR, B0, C with or without Cu, E410 A, Br, B0, C, E450 A, BR, A36



Ship Building

Intended use for these steels is in ultra high strength and tough wide steel plates for merchant ships, cargo, bulk carriers, submarine hulls and low-temperature applications

Grades : Lloyds GR A, B

Wind Engineering

Higher width high strength steel plates for conical sections of long wind towers

Grades : IS 2062 E 250/300/350, Br, B0, C
IS 2062 E 410 Br, B0, C
IS 2062 E 450 Br

All international standard equivalent to above .



Standard Plate Dimensions Available

Unit: mm

Thickness	Width	Length										
		1500	1600	1800	2000	2200	2500	2800	3200	3600	4000	4100
6, 8								6300	6300			
								7100	7100			
								8000	8000			
								9000	9000			
								10000	10000			
								11000	11000			
								12000	12000			
								12500	12500			
								13000	13000			
								14000	14000			
							15000	15000				
10, 12								6300	6300	6300	6300	6300
								7100	7100	7100	7100	7100
								8000	8000	8000	8000	8000
								9000	9000	9000	9000	9000
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							15000	15000	15000	15000	15000	
14, 16, 18	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100	7100
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20, 22, 25, 28, 30, 32, 36, 40, 45	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
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50	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
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Standard Plate Dimensions Available

Unit: mm

Thickness	Width	Length										
		1500	1600	1800	2000	2200	2500	2800	3200	3600	4000	4100
56, 63	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
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70, 80	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
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	15000	15000	15000	15000	15000	15000						
90	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
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NOTE : Supply in other dimensions will be as per mutual agreement

Dimensional tolerances in Plates Thickness :

6 to < 8 mm	= ± 0.22 mm
8 to < 15 mm	= ± 0.27 mm
15 to < 25 mm	= ± 0.32 mm
25 to < 40 mm	= ± 0.36 mm
40 to < 80 mm	= ± 0.45 mm
80 to < 100 mm	= ± 0.50 mm

CONTACT DETAILS

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स्टील अथॉरिटी ऑफ इण्डिया लिमिटेड
STEEL AUTHORITY OF INDIA LIMITED
केन्द्रीय विपणन संगठन
CENTRAL MARKETING ORGANISATION
Government of India Enterprise

There's a little bit of SAIL in everybody's life