



WIRE ROD



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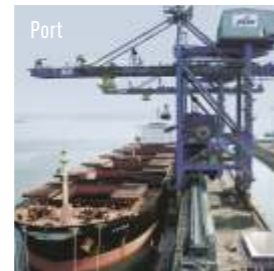
JSW Steel Limited



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# JSW GROUP



A \$11 billion conglomerate, JSW Group is a part of the O. P. Jindal Group. JSW has set up business facilities in various core sectors of India, with verticals that are exploring innovative and sustainable avenues in steel, energy, infrastructure and cement. The Group is paving the way for India's development as a global superpower.

JSW Steel is India's leading steel producer and among the world's most illustrious steel company. The Group is also leading in every sector that it operates in. By maintaining exemplary operational efficiencies, JSW Energy has grown ten-fold in just three years, while JSW Cement creates the building blocks of India with its environment friendly products. JSW Infrastructure is contributing to the nation's development by providing world class services to clients through state-of-the-art ports, terminals, shipyards and other facilities.

JSW Group is committed to creating more smiles at every step of the journey. JSW Foundation, the Group's CSR and sustainability arm, is in constant pursuit of making life better for communities with its various initiatives in the fields of health, education, livelihood and sports, along with art and culture.

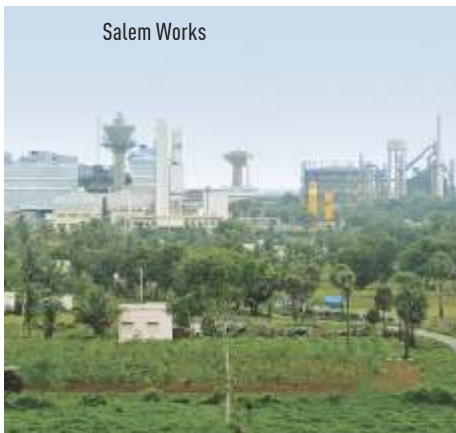
JSW Group is proud to be charting a course to excellence that creates opportunities for every Indian and leads to the creation of a sustainable, dynamic and developed nation.

## JSW STEEL LTD.

The flagship company of USD 11 billion JSW Group, JSW Steel is one of India's leading integrated steel manufacturers with a capacity of 14.3 MTPA. It is one of the fastest growing companies in India with a footprint in over 140 countries. With state-of-the-art manufacturing facilities located in Karnataka, Tamil Nadu and Maharashtra, it is recognized for its innovation and quality. JSW offers a wide gamut of steel products that includes Hot Rolled, Cold Rolled, Bare & Pre-painted Galvanized & Galvalume®, TMT Rebars, Wire Rods and Special Steel. JSW Steel continues to enhance its capabilities to meet the rapidly changing global market needs. To stay on the leading edge of technical advancement, JSW has entered into technological collaboration with JFE Steel Corp, Japan to manufacture high strength and advanced high strength steel for the automobile sector. JSW Steel has also entered into a joint venture with Marubeni-Itochu Steel Inc. Tokyo, to set up a state-of-the-art steel processing center. To strengthen its global network, the Company has also acquired a Pipe and Plate making steel mill in Baytown, Texas in USA. By 2025, JSW Steel aims to produce 40 million tons of steel annually.

## JSW STEEL COATED PRODUCTS LTD.

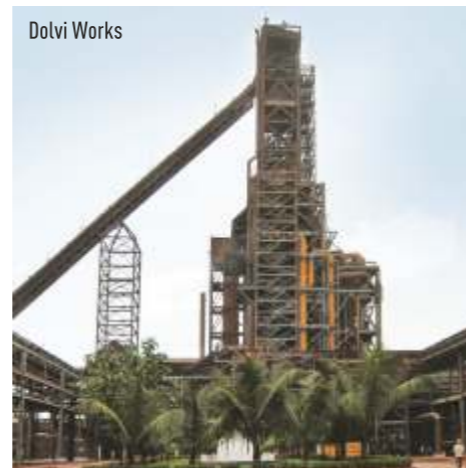
JSW Steel Coated Products Limited is 100% subsidiary company of JSW Steel, having state-of-the-art manufacturing facilities in the state of Maharashtra. JSW Steel Coated Products Ltd. is India's largest manufacturer and exporter of Coated Steel as well as Colour Coated Steel. The production facilities, Tarapur and Vasind Works, are located in the vicinity of major ports. The company's Kalmeshwar Works is centrally located near Nagpur to serve across regions. JSW is an ISO 9001: 2008 Certified Organization and the first licensee producer for Galvalume® in India. The Tarapur plant is specialized in manufacturing Ultra-Thin Coated Products. The company is also a manufacturer of appliance grade colour coated products. JSW's Kalmeshwar Works is the first producer of Galvanized and Colour Coated Steel in India. JSW also has introduced indigenously manufactured Pre-Coated Metal & Vinyl Coated Metal, for the first time in India, as it focuses on the Appliance Industry.



Salem Works



Vijayanagar Works



Dolvi Works



Vasind Works



Tarapur Works

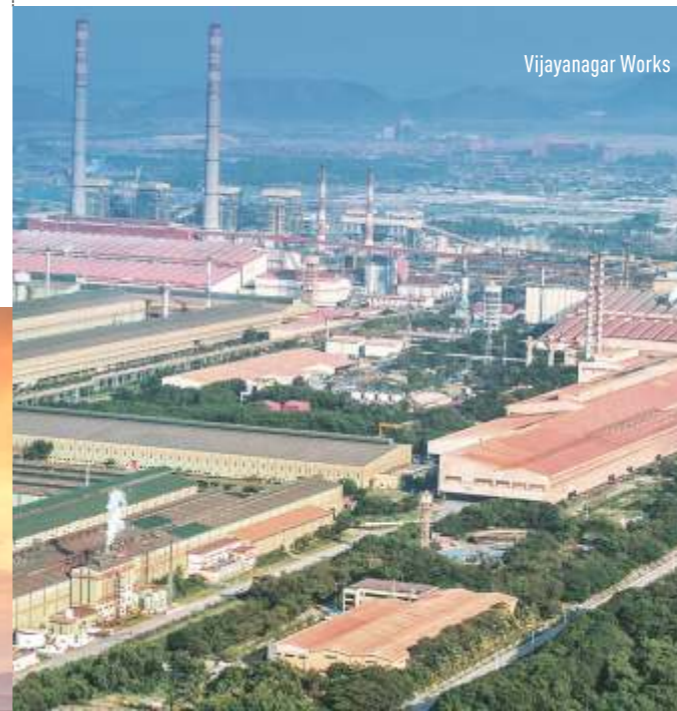


Kalmeshwar Works

Blast Furnace - IV



Vijayanagar Works



## SETTING BENCHMARKS

- First continuous annealing line in India
- Widest Cold Rolling Mill (upto 1870 mm width)
- India's Largest Coated Steel producer
- First Licensee Galvalume® producer in India
- JSW Steel Salem Works is the largest integrated alloy and special steel plant in India
- Widest Hot Strip Mill in India: 25.4 x 2150 mm
- India's Most Modern and Largest Vertical Caster - 300/260/220 x 2200 mm
- India's Largest Blast Furnace - 3.2 MTPA at Vijayanagar
- India's only Multi-Radii Bloom Caster (12/16/30 m) operational at Salem Works
- ZERO EFFLUENT discharge for greener & cleaner environment
- 1.5 million trees planted at Vijayanagar Works, transforming the area into a green oasis

Steel Melting Shop



A large industrial wire rod mill. The image shows a massive, dark metal structure with a large, curved opening. Inside, a thick bundle of glowing orange metal rods is being processed. The rods are arranged in a fan-like pattern, radiating from the center. The background is dark, and the overall scene is illuminated by the intense heat of the metal.

INDIA'S MOST MODERN  
WIRE ROD MILL

## THE MANUFACTURING FACILITY

JSW Steel Vijayanagar plant is the first integrated steel plant to reach 10 MTPA capacity at a single location in India. It is the first plant in India to use the Corex technology for hot metal production.

The first hot strip mill at Vijayanagar was commissioned in 1997. Since then it has grown exponentially and now has an installed capacity to produce 10 MTPA of steel.

Located at a remote village Toranagallu, North Karnataka in the Bellary-Hospet iron ore belt, it is fully integrated steel plant and well-connected with both Goa and Chennai ports.

### Unique features

- Houses India's largest blast furnace and the widest hot strip mill
- The only plant in India with paircross technology and twin-stand reversible cold-rolling mill
- The highest productivity steel plant in India, producing 800-plus tonnes per person per annum
- Recognised for its 'zero-effluent discharge' status; it reuses more than 95 per cent of process waste
- Low carbon footprint as it recycles 96% of coke oven gas for power generation
- Uses sophisticated ambient air control infrastructure beyond and has reduced gas flaring to lower levels



## JSW WIRE ROD

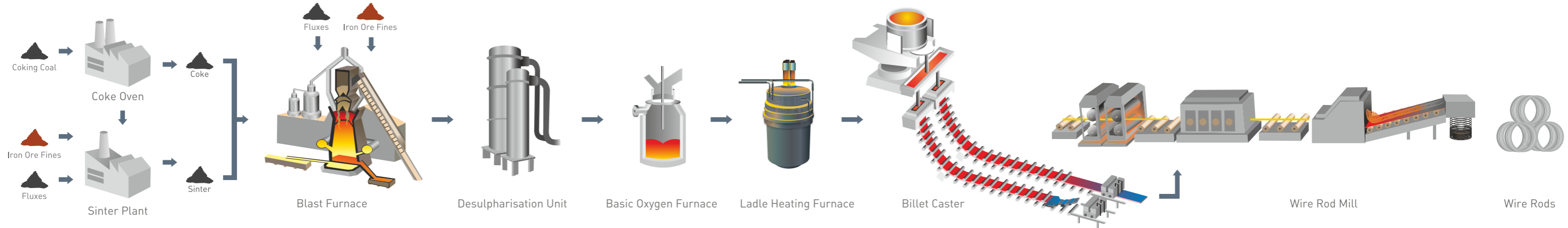
JSW's Wire Rods are produced through the cutting-edge Mill at Vijayanagar. JSW's Wire Rod is manufactured in High/Medium/Low carbon grades, Electrode grade, CHQ grades. Dimensional accuracy is guaranteed by an automatic thickness control system using advanced numerical models.

# ADVANTAGE JSW

- High Speed Wire Rod Mill (120mtr/sec)
- Low Sulphur and Phosporous Content (0.005% - 0.035%)
- Low Tramp Elements
- Excellent Mechanical and Consistent Chemical Properties



# THE MANUFACTURING PROCESS





## FACILITIES AND EQUIPMENTS

### Reheating furnace

- State of art walking beam furnace with auto control air fuel ratio of capability 160Ton/Hr
- Minimum scale generation around 0.50% throughout the coil

### Descaler

- High pressure Descaler of 230bar(max),ensuring removal of scale deposition on the billets surface

### 230/150 Rod Tekisun Mill

- 4 Strands with unique facilities which maintains narrow band of ovality and size tolerance

### Stelmor Conveyor

- Optiflex control with 180 mts, controlled cooling with uniform mechanical & metallurgical properties. Standard cooling, Retarded cooling and Forced cooling to process different grades

### Compacting & Strapping unit

- Compaction at a maximum capacity of 40 Tons, which produce compact coils of superior quality



## WIRE ROD PRODUCT SPECIFICATIONS

### Coil Particulars

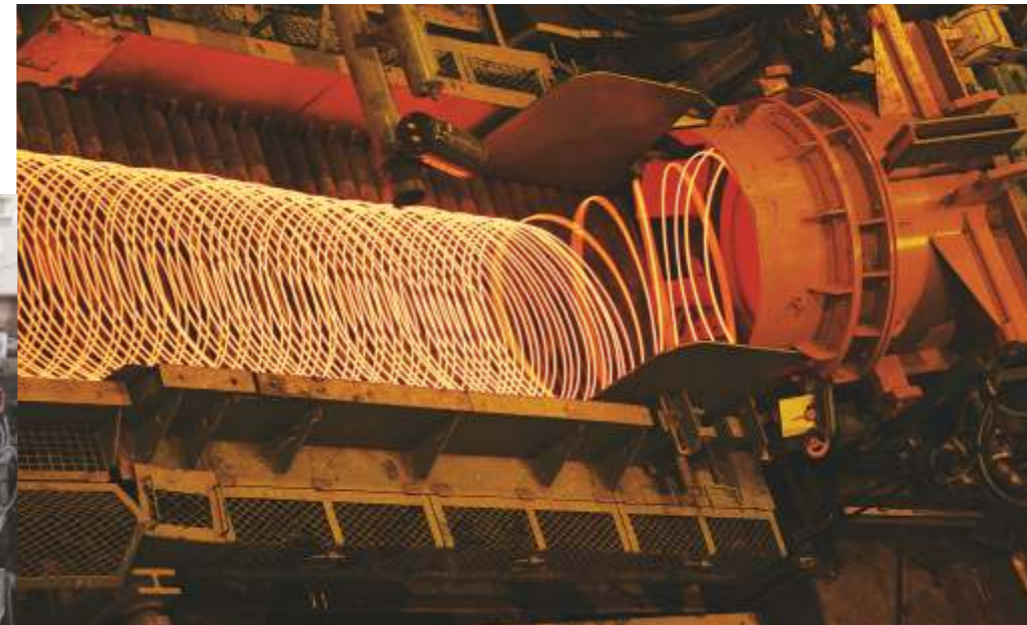
Inner Diameter	: 750 mm (min.)
Outer Diameter	: 1250 mm (max.)
Coil Height	: 2 meter (max.)
Coil Weight	: 2.600 MT (max.)
Packaging	: 4 Steel Straps Binding (min.)

### Supply Specifications

Surface Defects	: 1.0% of Diameter (max.)
De-Carburization	: 1.0% of Diameter (max.)
Internal Soundness	: Free from Pits, Seams, Blow holes etc.
Supply Condition	: as per TDC
Control in UTS	: 60 N/mm <sup>2</sup> (6Kg/mm <sup>2</sup> , within a ring) for High Carbon

### Size Range (in mm)

5.2, 5.5, 6.5, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22



## DIMENSIONAL TOLERANCE

Diameter (mm)	Tolerance (mm)	Ovality (mm)
5.20 to 8.50	+/- 0.20	0.30 max.
9.00 to 14.00	+/- 0.25	0.40 max.
14.50 to 22.00	+/- 0.30	0.40 max.



## GRADES AND SPECIFICATIONS

### LOW CARBON WIRE ROD GRADES

GRADE	SIZE (mm)	CHEMICAL COMPOSITION						MECHANICAL PROPERTIES			
		%C (max.)	%Mn (max.)	%S (max.)	%P (max.)	%Si (max.)	Others	UTS N/mm2	%EL (min.)	%RA (min.)	End Applications
SAE 1005	5.20-22.0	0.06	0.35	0.03	0.025	--	--	400 max	25	50	Wire Applications & Fasteners
SAE 1006	5.20-22.0	0.08	0.25-0.45	0.03	0.025	--	--	410 max	25	50	Wire Applications & Fasteners
SAE 1008	5.20-22.0	0.10	0.30-0.50	0.03	0.025	--	--	420 max	25	50	Wire Applications & Fasteners
SAE 1010	5.20-22.0	0.08-0.13	0.30-0.60	0.03	0.025	--	--	430 max	25	50	Wire Applications & Fasteners
SAE 1012	5.20-22.0	0.10-0.15	0.30-0.60	0.03	0.025	--	--	440 max	25	50	Wire Applications & Fasteners
SAE 1015	5.20-22.0	0.13-0.18	0.30-0.60	0.03	0.025	--	--	450 max	25	50	Wire Applications & Fasteners
SAE 1018	5.20-22.0	0.15-0.20	0.60-0.90	0.03	0.025	--	--	500 max	25	50	Wire Applications & Fasteners
SAE 1020	5.20-22.0	0.18-0.23	0.30-0.60	0.03	0.025	--	--	520 max	25	50	Wire Applications & Fasteners
SAE 1022	5.20-22.0	0.18-0.23	0.70-1.00	0.03	0.025	--	--	540 max	20	45	Wire Applications & Fasteners
SAE 1025	5.20-22.0	0.22-0.28	0.30-0.60	0.03	0.025	--	--	520 max	20	45	Wire Applications & Fasteners
SAE 10B25	5.20-22.0	0.23-0.28	0.90-1.20	0.03	0.025	--	B-0.0005 - 0.003	570 max	20	45	Wire Applications & Fasteners

### MEDIUM CARBON WIRE ROD GRADES

GRADE	SIZE (mm)	CHEMICAL COMPOSITION							MECHANICAL PROPERTIES			
		%C (max.)	%Mn (max.)	%S (max.)	%P (max.)	%Si (max.)	%Al	N ppm (max.)	UTS N/mm2	%EL (min.)	%RA (min.)	End Applications
SAE1042	5.20-22.00	0.40-0.47	0.60-0.90	0.025	0.025	--	--	--	--	--	--	
SAE1055	5.20-22.00	0.50-0.60	0.60-0.90	0.025	0.025	--	--	--	--	--	--	
SAE1035	5.20-22.00	0.32-0.38	0.60-0.90	0.025	0.025	--	--	--	--	--	--	
SAE1030	5.20-22.00	0.28-0.34	0.60-0.90	0.025	0.025	--	--	--	--	--	--	

# HIGH CARBON WIRE ROD GRADES

GRADE	SIZE (mm)	CHEMICAL COMPOSITION						MECHANICAL PROPERTIES		
		%C	%Mn	%S (max.)	%P (max.)	%Si	Others	UTS N/mm2 (min.)	%RA (min.)	End Applications
HC 51/55	5.5	0.51-0.55	0.60-0.90	0.015	0.02	0.15-0.25	-	820	40	Grade II Spring
	6.5							800	40	
HC 58/62	5.5	0.58-0.62	0.60-0.90	0.015	0.02	0.15-0.25	-	920	40	Wire Rope & Fine Wire
	6.5							900	40	
HC 61/65	5.5	0.61-0.65	0.60-0.90	0.015	0.02	0.15-0.25	-	940	40	Grade II Springs, ACSR
	7							920	40	
	8							900	40	
HC 66/70	5.5	0.66-0.70	0.60-0.90	0.015	0.02	0.15-0.25	Cr-0.12 max.	1010	40	Grade II Springs, Tyre Bead
	6.5							1000	40	
HC 68/72	5.5	0.68-0.72	0.60-0.90	0.015	0.02	0.15-0.25	-	1010	40	Tyre Bead
HC 71/75	5.5	0.71-0.75	0.60-0.90	0.015	0.02	0.15-0.25	-	1040	40	Grade II Springs, Card Pins, Card Cloth Wire
	6.5							1040	40	
	7							1020	40	
	8							1020	40	
HC 76/80	5.5	.076-0.80	0.60-0.90	0.015	0.02	0.15-0.25	Cr-0.15-0.25	1130	40	Shutter Wire
	6.5							1120	40	
	7							1110	40	
	8							1100	38	
HC 78/82	5.5	.078-0.82	0.60-0.90	0.015	0.02	0.15-0.25	Cr-0.05-0.15	1160	38	Shutter Wire
	6.5							1140	38	
	7							1130	38	
	8.5							1120	35	
HC 81/85	5.5	0.81-0.85	0.60-0.90	0.015	0.02	0.15-0.25	Cr-0.05-0.15	1150	35	Grade III Springs PC, Strand, Shutter Wire
	6.5							1140	35	
	7							1130	35	
	8							1120	33	
	10							1100	33	
	12							1080	33	
JIS-SWRH 62A	5.5	0.61-0.65	0.30-0.60	0.015	0.02	0.15-0.25	-	880	40	Grade II Springs for Machine Tools, Hydraulic Machines
	6.5							870	40	
JIS-SWRH 62B	5.5	0.61-0.65	0.60-0.90	0.015	0.02	0.15-0.25	-	950	40	Spring Applications in Automobiles and Heavy Machines
	6.5							930	40	

## WELDING ELECTRODE WIRE ROD GRADES

GRADE	SIZE (mm)	CHEMICAL COMPOSITION						MECHANICAL PROPERTIES			
		%C (max.)	%Mn	%S (max)	%P (max.)	%Si (max.)	Others (max.)	UTS N/mm2 (min.)	%EL (min.)	%RA (min.)	End Applications
AWSER70S-6	5.5	0.06-0.15	1.40-1.85	0.025	0.025	0.80 - 1.15	Cu-0.50,Ni-0.15,Cr-0.15, Mo-0.15,V-0.03	550	22	78	Electrode Wire applications
IS2879EWNR	5.5 6.5	0.10	0.38-0.62	0.025	0.025	0.03	Cu-0.15,V-0.005,Ti-0.003	400	25	50	Electrode Wire applications

## JSW NEOSTEEL TMT WIRE ROD GRADES

JSW STANDARD	BIS SPECIFICATION	SIZE (mm)	CHEMICAL COMPOSITION						MECHANICAL PROPERTIES				
			% C (max.)	% S (max.)	% P (max.)	% Cu (max.)	% Cr (max.)	C.E (max.)	Y.S (min.)	T.S (min.)	T.S/Y.S (min.)	% El (min.)	
JSW NEO Steel Fe 500 D	IS 1786 Fe 500 D	6.0 - 12.0	0.25	0.04	0.04	....	....	0.42	500	565	1.1	16	
JSW NEO Steel Fe 500 S	IS 1786 Fe 500 S	6.0 - 12.0	0.25	0.04	0.04	....	....	0.42	500	625	1.25	18	
JSW NEO Steel Fe 550 D	IS 1786 Fe 550 D	6.0 - 12.0	0.25	0.04	0.04	....	....	0.42	550	600	1.08	14.5	
JSW NEO Steel Fe 600	IS 1786 Fe 600	6.0 - 12.0	0.30	0.04	0.04	....	....	0.42	600	660	1.06	10	
JSW NEO Steel Fe 500 D CRS	IS 1786 Fe 500 D CRS	6.0 - 12.0	0.15	0.04	0.12	0.30	0.50	0.53	500	565	1.1	16	
JSW NEO Steel Fe 550 D CRS	IS 1786 Fe 550 D CRS	6.0 - 12.0	0.15	0.04	0.12	0.30	0.50	0.53	550	600	1.08	14.5	
JSW NEO Steel Fe 600 CRS	IS 1786 Fe 600 CRS	6.0 - 12.0	0.15	0.04	0.12	0.30	0.50	0.53	600	660	1.06	10	





## TESTING FACILITIES

- Cold Upset Testing Machine
- Universal Testing Machine (UTM)
- Bend/Rebend Test Machine
- Eddy Current Sorter
- Bench Magnifier
- Mobile Spectro
- Micro Ohm Meter
- Stereo Microscope
- Rockwell Hardness Tester
- Metallurgical Microscope

## THE ULTIMATE TEST

Wire Rods Coils are used in a variety of applications

- Automobile - Hot & Cold Forming
- Infrastructure viz Power, Roads
- Dams, Bridges, Ports, Refineries
- Railways
- General Engineering
- Machine & Equipment Building

# SALES OFFICES

## AHMEDABAD

410, Abhishilp Complex, Near Keshavbag Party Plot,  
Manasi Cross Road, Satellite, Ahmedabad - 380 015  
Tel.: 079-40029508, 40029510, 40029509

## BENGALURU

The Estate,  
3rd Floor, West Wing, 121,  
Dickenson Road, Bengaluru - 560 042  
Tel : 080-42448888

## CHENNAI

Fagun Mansion, 5th Floor,  
New No.74, Old No.26, Ethiraj Salai, Egmore,  
Chennai - 600 008  
Tel.: 044-28297420, 28297422

## COIMBATORE

T. V. Swamy Road (West), Coimbatore - 641 002  
Tel.: 0422-2541870

## DELHI

Thapar House, Janpath, New Delhi - 110 001  
Tel.: 011-46050000

## FARIDABAD

Plot No. 161, Sector 24, Faridabad - 121 004, Haryana  
Tel.: 0129-2239248, 2232387

## NOIDA

14A, Industrial Area, Buland Shar Road,  
Ghaziabad - 201 009  
Tel.: 0120-3262875, 2867142

## GUWAHATI

106, 3rd Floor, Meer Market, Masjid Lane, Kamarpatty,  
Guwahati - 781 001  
Tel.: 0361-2730054

## HYDERABAD

7th Floor, Surya Towers, 105, Sardar Patel Road,  
Secunderabad - 500 003  
Tel.: 040-27846669/79

## INDORE

3rd Floor, Lakshya Badgara, 13/1,  
New Palasia, Near Curewell Hospital, Indore - 452 001  
Tel.: 0731-2532156/57/58/59, 4043613

## JAIPUR

Evershine Tower, F-1, 705, 7th floor,  
Amarpali Circle, Vaishali Nagar, Jaipur - 302 021  
Tel: 0141 4026760/62/63/64

## KANPUR

Room No.105, Ratan Esquire, Chunniganj,  
Kanpur - 208 001  
Tel.: 0512-3271907

## KOCHI

Mitsun Enterprise, 30/1854 B4, 1st Floor, Ponnurunni  
Road, Chalikkavattom Junction, Vytilla P.O.,  
Kochi - 682 019  
Tel.: 0484-4026392/ 4063294

## KOLKATA

Godrej Waterside, 10th floor, Tower - 1, Unit No. 1003,  
Block -DP, Plot -5, Sector V, Salt Lake City, Kolkata - 700 091  
Tel : (033) 40002020  
Fax: (033) 40002021

## LUDHIANA

109, Modelgram, Near Kochar Market, Opp. Malwa  
School, Ludhiana - 141 002  
Tel.: 0161-6578944, 6450816

## MUMBAI

Grande Palladium, 6th Floor, 175,  
CST Road, Kalina, Santacruz (East),  
Mumbai - 400 098  
Tel.: 022-61871000

## NAGPUR

Poonam Plaza, Palm Road, Civil Lines, Nagpur-440 001  
Tel: 0712- 2520333

## PATNA

1, Tilak Nagar East, Behind Patna Diesel, Kankarbagh,  
Patna - 800 020  
Tel: 08002230517

## PUNE

2nd Floor, Mahendra Chambers, Mayfair Building A,  
Dhole Patil Road, Pune - 411 001  
Tel.: 020-64104547, 27111427

## RUDRAPUR

Plot No. 264, By Pass Road, Village Kishanpur, Kichha,  
District Udam Singh Nagar Uttrakand - 263 148  
Tel.: 05944-263290

