

HARD STRIPS (INDIA)

An ISO 9001: 2008 Certified Company



**HARDENED & TEMPERED
STEEL STRIPS**



OH MY GOD.... IT'S RAINING!!!!

What has our Hardened & tempered steel strip got to do with your car's windscreen?

In order to have a good driving experience during the rainy and winter seasons, it is very crucial to have clear visibility, and for that it is important to have good windscreen wipers. The wiper blades made from our Hardened & tempered steel strips have better performance and last long due to their ability to continuously provide spring properties even in extreme loads.

Hardened and tempered steel strip is the most important segment at Hard Strips (India). We are the leading manufacturer of Hardened & tempered steel strips in India due to our products' reliability, break resistance, excellent workmanship, and guaranteed closest tolerances.

Our HSS® band saw steel strips are widely used in the manufacturing of wood cutting saws and blades due to their uniform hardness and extraordinary precision, which improves the breaking strength & longevity of the product. Additionally, due to our products' toughness, robustness, & form stability, they are also widely used for manufacturing shutter springs & stationery items.



Our Hardened & Tempered carbon steel strips are used for manufacturing Compressor Valves & Shock absorbers due to their flatness, wear resistance, surface quality, longevity & their ability to withstand extreme stress. Also, as our products have optimum hardness levels, so they are used for manufacturing leather splitting & tannery knives.

Meeting industry demands

Hard Strips (India) has been manufacturing Cold Rolled & Hardened Tempered carbon steel strips for more than 3 decades. Due to our knowledge, experience, & constant process improvements, we have consistently been able to achieve precise results in the manufacturing of carbon'spring steel strips.

Hard Strips (India) offers different grades of carbon steel strips. Our products have high workability, fatigue resistance, corrosion resistance & are suitable for use at high temperatures. Additionally, in order to serve our customers better, we offer tailored solutions to them. Our advanced cold rolling mills can produce strip in thicknesses down to 0.20mm. Through our fully integrated processes we ensure that our products are high quality and long lasting.



How can we help you increase your productivity?

Research & Development

It is our endeavor to look for various methods & techniques to improve the quality of our products. We are equipped with an in-house precision lab where we have the latest scientific instruments & equipments and where our highly experienced R&D personnel work in order to develop the new means of improving the product quality.

Quality Assurance

Hard Strips (India) is dedicated to customer service through Total Quality Management. Our ISO: 9001:2008 certification represents our on-going commitment of providing top quality products and services to our customers. The strips produced are strictly as per Technical Delivery Conditions required by the customers in particular or normal course as per the IS, BS, DIN, SAE standards.

Timely Delivery - On time - Every time.

We work with our customers to ensure that our delivery schedule is consistent with the customer's production schedule. This leads to greater efficiencies, increased competitiveness in the market, and greater customer satisfaction.

Tailored Solutions & Deliveries: Strong Relationships

Our experience and know-how is used for the interest of our customers. This usually needs a close communication between the customers and our technicians. The more precise we know which tasks have to be aimed for, the sooner we can optimize our products tailor made for the specific application. This can help to achieve significant savings for the development and manufacturing of our customers' products.

Process Control: Meeting your Expectation without any exception.

By continuously monitoring all the operations involved in steel strips manufacturing, quality control, and dispatch, we ensure that our products meet your expectations. We strive to perform to the highest degree.

We're changing ahead of time.

By innovating new products and continuously enhancing our existing products we remain uniquely positioned to help our customers enter new markets and segments faster.



Thickness	0.20 - 3.5 mm
Width	10 - 320 mm
Material Grade	As per customer requirement
Tolerances	According to EN 10140 and special agreements
Delivery form	Coils and fixed lengths
Surface conditions	Furnace Grey, Bright, Dark Blue, Golden (Bronze)
Flatness	Max 0.20% of width
Edge Conditions	Sheared Edge & Round Edge

Grades

Hard Strips (India) offers the following spring steel materials. Other grades such as 75Cr25, 75Cr1, 75Ni8, & 80CrV4 can be offered on request.

	Grades	Carbon %	Silicon %	Manganese %	Sulphur % (Max)	Phosphorous % (Max)	Chromium %	Vanadium %
Medium Carbon Steel	SAE 1055	0.52-0.60	0.15-0.30	0.60-0.90	0.05	0.04		
	SAE 1060	0.55-0.66	0.15-0.30	0.60-0.90	0.05	0.04		
	SAE 1065	0.60-0.70	0.15-0.30	0.60-0.90	0.05	0.04		
High Carbon Steel	SAE 1070	0.65-0.75	0.15-0.30	0.60-0.90	0.05	0.04		
	SAE 1075	0.70-0.80	0.15-0.30	0.40-0.70	0.05	0.04		
	SAE 1080	0.75-0.88	0.15-0.30	0.60-0.90	0.05	0.04		
	SAE 1085	0.80-0.93	0.15-0.30	0.70-1.00	0.05	0.04		
Low Alloy Steel	SAE 1095	0.90-1.03	0.15-0.30	0.30-0.50	0.05	0.04		
	C-125	1.10-1.25	0.10-0.35	0.30-0.60	0.03	0.03	.20-0.50	
	50CrV4	0.48-0.55	0.10-0.35	0.70-1.10	0.035	0.03	0.90-1.20	0.07-0.20

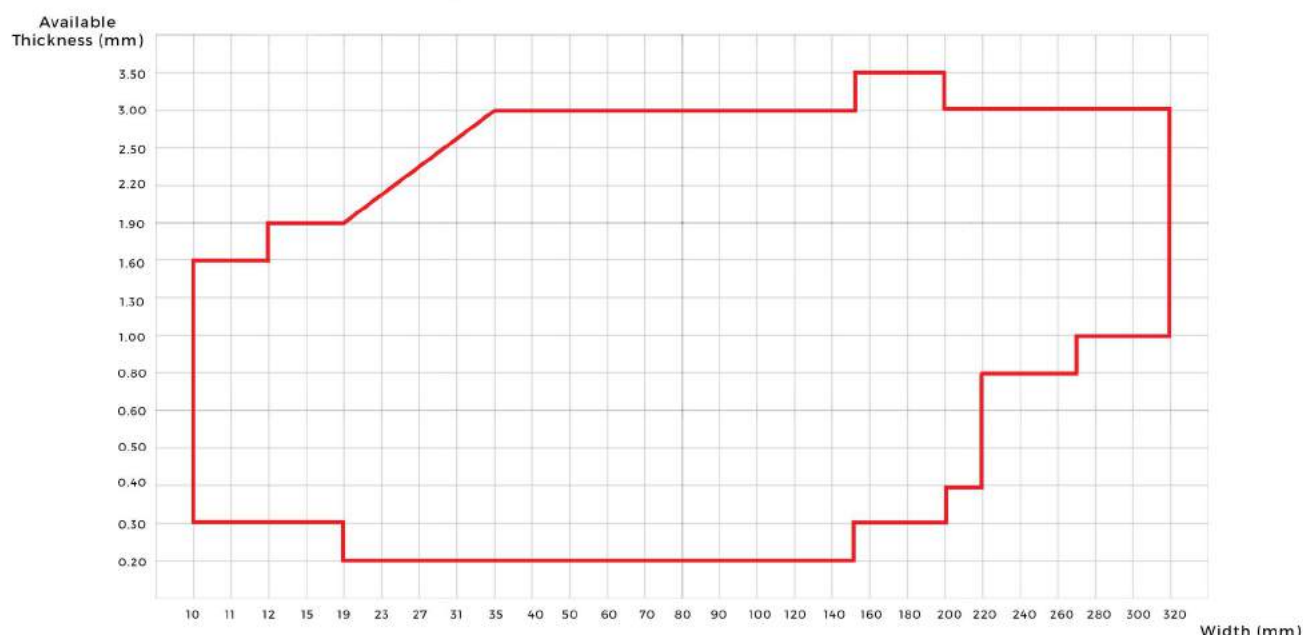
International Cross References

Grade	USA	Germany	Great Britain	France	Euronorm	Italy	Japan
	SAE/AISI	DIN	BS	NFA	EN	UNI	JIS
Medium Carbon Steel	1055	CK 55	EN 9	XC 55		C 55	S 55 C
	1060	C 60 / CK 60	CS 60	XC 60	C 60E	C 60	SUP 11 A / S 58 C
	1065	0.65-0.76	EN 42F				
High Carbon Steel	1070	C 67 / CK 67	CS 70	XC 68	C 67S	C 70	
	1075	C 75 / CK 75	EN 42J	XC 75	C 75S	C 75	
	1080	C 80	CS 80				
	1084	CK 85		XC 90	C 85S	C 90	SK 5
Low Alloy Steel	1095	CK 101	CS 95	XC 100		C 100	SK 4 / SUP 4
	6150	50CrV4	EN 47 / 735A50	50CrV4	50CrV4	50CrV4	SUP 10

Sizes

We offer strip steel in the following size ranges. Other sizes can be offered on request.

Hardened & Tempered Steel Strips



Shape

Through our advanced cold rolling mills, we ensure that our cold rolled carbon steel strips have the desired thickness, flatness and straightness. By ensuring that there is no deviation from flatness, we ensure that there is no waviness, coil set, and crossbow in our steel strips.

Edge Conditioning

We deliver our steel strips with a variety of “stress-free” edge finishes, in order to fit our customers’ demands. The standard profiles are shown below:

Sheared Edge

It is obtained while slitting the steel strips with a circular shear.

Round edge

Edge rounding helps to improve the fatigue life of the steel strips. Obtainable in widths up to 150 mm

Hardness Conversion Table

Vickers Hardness HV / VPN	Rockwell Hardness HRB	Rockwell Hardness HRC	Tensile Strength N/mm ²	Tensile Strength kgf/mm ²
591	120	54.5	1940	198
569	119	53.5	1880	192
547	119	52	1792	183
528	117	51	1740	177
508	117	49.5	1655	169
491	116	48.5	1595	163
474	115	47	1520	155
455	115	45.5	1471	150
440	114	44.5	1422	145
425	113	43	1363	139
410	112	42	1314	134
396	112	40.5	1265	129
383	110	39	1236	126
372	110	38	1187	121
360	109	36.5	1157	118
350	109	35.5	1118	114
339	108	34.5	1089	111
328	108	33	1049	107
319	107	32	1020	104



Highly durable material: our Hardened & Tempered carbon steel strips

Our Hardened tempered carbon steel strips are extremely good quality and durable. Our products have better elongation, higher tensile strength, higher workability and are ductile and uniform at all times. We ensure that our products meet the exact chemical and mechanical properties as required by our customers.

In order to ensure that our end products are reliable and adhere to the quality standards, our product development is continuously supported by stringent quality management procedures right from the starting.

HSS® Band saw Strip

A good Band saw is very useful for woodworking. The HSS® Band saw high carbon steel strip produced by Hard Strips (India) has excellent cutting stability, due to which it is able to cut things neatly. Our Band Saw strips are also long lasting, as it is able to withstand the continuously changing strains and stresses, i.e. high fatigue resistance. Additionally, our Band Saw does not suffer from cracks while brazing, and has excellent machinability, blankability, & weldability.

Versatile & Flexible Spring Steel

The steel strips manufactured by Hard Strips (India) find a lot of application in the Spring Industry, due to its high yield strength, durability & form-stability, & the ability to return to its original shape on bending or twisting.

Spring steel strips manufactured by us are used in a number of applications where hardness or resistance to bending is required such as wood cutting tools. Our spring steel also plays an important role in improving your driving experience, as it is the diaphragm spring made from our steel strips that ensures smooth working of the clutch and the gear.

Narrow Steel Strips - Precision is the Key

Since last 32 years, Hard Strips (India) has been manufacturing Narrow medium & high carbon steel strips. With our modern and highly controlled manufacturing facilities, we are able to manufacture wear-resistant and strain resistant steel strips up to 10 mm width, and 0.20 mm thickness.

Are you worried about the product quality?

We are here to serve you well and in order to ensure precision our manufacturing department is supported by intensive quality control procedures.



Technical & Metallurgical Services

Our technical staff has more than 30 years of experience in the field of spring steel strip industry. We pride ourselves for our ability to assist the customers in continuous product improvement by both mutual development of the product specifications and by evaluation of the existing product specifications.

The services offered include:

- 1) Selection of an appropriate grade.
- 2) Surface & Edge Requirements
- 3) Microstructural Requirements
- 4) Permissible Tolerances
- 5) Blanking Properties
- 6) Wear Life
- 7) Fatigue & Bending properties
- 8) Packaging requirements

Product Packaging - Genuine Packaging for Genuine Products

After the carbon steel strips development, we at Hard Strips (India) also make sure that they reach your company in a superb condition. This has led us to concentrate on packaging as well. We understand that every means of transportation is different, and for this we have developed different types of packaging in order to meet both national and international demands. Due to our vast experience in this field, we ensure that through out packaging, our carbon steel strips are easily traceable and are able to resist the bumpy and long transportation.



HARD STRIPS (INDIA)



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