STELCO LIMITED

Medium/High Carbon, Alloys Steel Cold Rolled & Hardened / Tempered Steel Strips.

TÜVRheinland®

An IATF : 16949:2016 Certified Company

ABOUT STELCO LIMITED

STELCO LIMITED - INDIA, a reliable source for COLD ROLLED, HARDENED & TEMPERED STEEL STRIPS is serving the industry with the world class Products in the field of 'SPRING STEEL STRIPS'.

A Dedicated team of Engineers and Managers supported by State-of-the-Art Plant & Machinery and above all a Great Support from band of Satisfied Customers have placed ‘STELCO’ on the World Map.

We also recognize significant contribution from our Raw Material Suppliers Namely ‘TATA STEEL-INDIA’, ESSAR STEEL, POSCO-S. KOREA’, and JFE-JAPAN’ without whose consistent support we could not have reached where we are today.

Stelco has always striven to manufacturer **"Zero Defect Products"**. The high standards both in expertise and result oriented endeavors, have delivered high quality products from the very inception of the company. Stelco's manufacturing facility situated strategically on National Highway NH-7 at Bathinda Road, Rampura Phul (Punjab) with easy access to the whole of north as well as major port in the west. The unit is spread over an area of approximately 46000 Sq. Mtr. and the total covered area is 21000 Sq. Mtr.

Manufacturing Capacity :-

Cold Rolled Steel Strip - 35,000 MT per annum

Hardened and Tempered Steel Strips-22,000 MT per annum

Capacity Utilisation :-

Cold Rolled Steel Strip - 30,000 MT per annum

Hardened and Tempered Steel Strips - 17,000 MT per annum

Stelco is managed by board of directors having qualified and experienced personal on the board. Management principles are founded on rigorous ethical, professional and legal standards.

At Stelco each level of management is responsible and accountable for executing the jobs and thereby delivering the results. Every individual is empowered to perform best as self management and delegation are integral to work. Managers are committed to boost the skills of their teams. Sensitivity to the customer's needs and view, is woven into the work culture as it helps to keep the compnay ahead of the competition and sensitivity to colleagues makes for a happier organization and high quality output. The company is thus tuned to achieves its set goals. It constantly strives to reduce energy cost, expand its market in different states and countries and to grow its clientele. It has succeeded in the highly competitive global and domestic markets on account of the unstinted vision for producing high quality and standardised products at competitive prices.

MANUFACTURING INFRASTRUCTURE TUNED TO DELIVER GLOBAL QUALITY

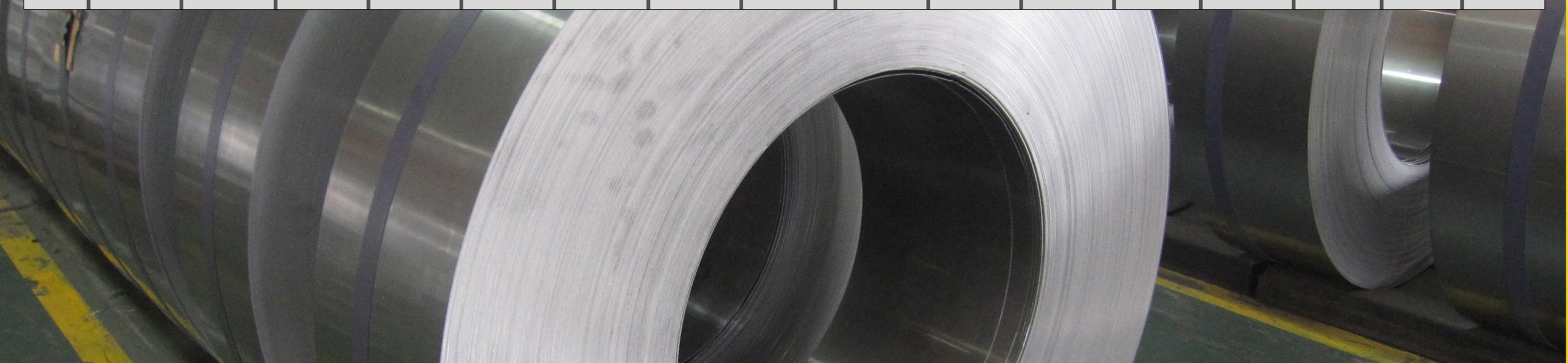
COLD ROLLING DIVISON	
H.R. Slitting Line	01
Continuous Descaling / Pickling Line	01
Cold Rolling Mill (Auto Gauge Control)	04
Bell Annealing Furnaces	12 Bases & 5 Furnaces
Skin Pass Mills	02
C. R. Slitting Lines	06
Cut to Length Machines	02

HARDENING & TEMPERING DIVISION	
Hardening and Tempering Lines	08
Edge Dressing Machines	04
Grinding / Polishing Machines	10
Colour Tempering Lines	02
Cut to Length Machines	01

TESTING FACILITIES
1. Spectrometer for chemical Analysis
2. UTM for mechanical properties Analysis
3. Wet Analysis for Chemical Analysis
4. Calibration of inspection & measuring instruments
5. Micro structure Analysis
6. Hardness Testing Facilities
7. Surface Roughness Test
8. Quenching oil testing

GRADES

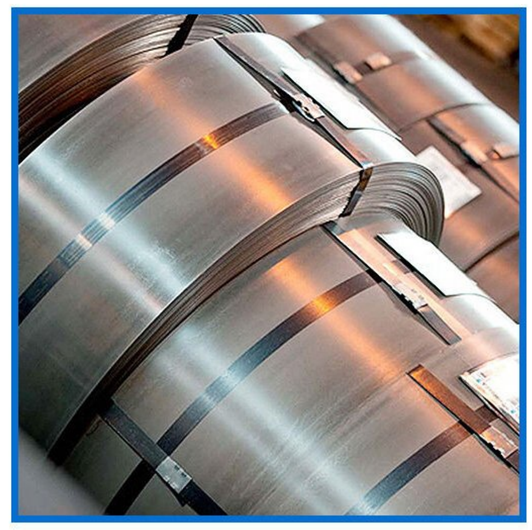
S.no.	Indian Steel Grade	Equivalent International Steel Grades					Chemical Composition Specifications									
		American	European	England	Germany	Japanese										
	IS	SAE	EN	BS	DIN	JIS	C%	Mn%	Si%	P%	S%	Cr%	Cu%	Ni%	V%	Others%
1.	C 40	SAE 1040	C 40	EN 8	C 40	S40C	0.35-0.45	0.60-0.90	0.15-0.35	0.040 max.	0.040 max.	–	–	–	–	–
2.	45C8	SAE 1045	C 45	–	C 45	S45C	0.40-0.50	0.60-0.90	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
3.	–	SAE 1050	C 50	EN 43	C 50	S50C	0.47-0.55	0.60-0.90	0.10-0.35	0.045 max.	0.045 max.	0.40 max	–	0.40 max.	–	Mo-0.10 max.
4.	55C6	SAE 1055	C55S	EN 9	C 55	S55C	0.50-0.60	0.60-0.90	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
5.	–	SAE 1060	C60S	–	C 60	S60C	0.57-0.65	0.60-0.90	0.10-0.35	0.045 max.	0.045 max.	0.40 max	–	0.40 max.	–	Mo-0.10 max.
6.	65C6	SAE 1065	–	EN 42B	C 62	S65C	0.60-0.70	0.50-0.80	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
7.	70C6	SAE 1070	C67S	–	C 67	S70C	0.65-0.75	0.50-0.80	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
8.	75C6	SAE 1075	C75S	EN 42C	C 75	–	0.70-0.80	0.50-0.80	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
9.	C75-Cr25	–	–	–	–	–	0.70-0.78	0.60-0.80	0.35 max	0.035 max	0.030 max	0.15-0.27	–	–	–	Al-0.010-0.040
10.	–	–	–	–	75Cr1	–	0.70-0.80	0.60-0.80	0.25-0.50	0.030 max	0.030 max	0.30-0.40	–	–	–	–
11.	80C6	SAE 1080	–	EN 42J	C 80	–	0.75-0.85	0.50-0.80	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
12.	85C6	SAE 1085	–	EN 42D	–	–	0.80-0.90	0.50-0.80	0.10-0.35	0.050 max.	0.050 max.	–	–	–	–	–
13.	–	SAE-1086	C85S	–	–	SK85	0.80-0.90	0.50 max.	0.35 max.	0.030 max	0.030 max	0.30 max.	0.25 max	0.25 max	–	–
14.	–	SAE-1095	C100S	EN 44D	CK 101	SK95	0.90-1.00	0.50 max.	0.35 max.	0.030 max	0.030 max	0.030 max	0.25 max	0.25 max	–	–
15.	50Cr4V2	SAE 6150	51CrV4	EN 47	50CrV4	SUP10	0.47-0.55	0.70-1.10	0.15-0.35	0.040 max.	0.040 max.	0.90-1.20	–	–	0.10-0.20	–
16.	–	–	–	–	58CrV4	–	0.55-0.62	0.70-1.10	0.10-0.40	0.035 max.	0.035 max.	0.90-1.20	–	–	0.10-0.20	–
17.	–	–	C120U	–	–	SK120	1.15-1.25	0.10-0.50	0.10-0.35	0.030 max.	0.030 max.	–	–	–	–	–
18.	–	–	125Cr2	–	–	SKS 81	1.10-1.30	0.50 max.	0.35 max.	0.030 max.	0.030 max.	020-0.50.	–	–	–	–
19.	–	–	–	–	27MnCrB5-2	–	0.24-0.30	1.10-1.40	0.40 max.	0.025 max.	0.035 max.	0.30-0.60	–	–	–	B-0008-0.005



COLD ROLLED AND SPHERODIZED ANNEALED STEEL STRIPS

Cold Rolled Steel Strip is produced, as the term suggests by the further rolling of strip produced by the hot strip mills. Prior to cold rolling, the mill scale has to be removed, normally by the Pickling Process which uses mechanical manipulation (around small diameter rolls) and acid to dissolve the surface scale. The surface is then washed to remove the acid and a light oil added to prevent rusting.

WHY COLD ROLLING :-



» Reduce the thickness

» Improve the surface finish

» Improve the thickness tolerances

» To offer a range of “tempers”

» As a preparation for surface coating

COLD ROLLING STEEL PROCESS

Cold-rolling steel is the process of steel flattening by passing the steel through a series of rollers. It is called Cold Rolling (or Cold Rolled) because the steel is kept below its recrystallization temperature. Cold rolling steel makes it up to 20% stronger and improves the surface finish. Cold-rolled sheets and strips come in various conditions: full-hard, half-hard, quarter-hard, and skin-rolled.

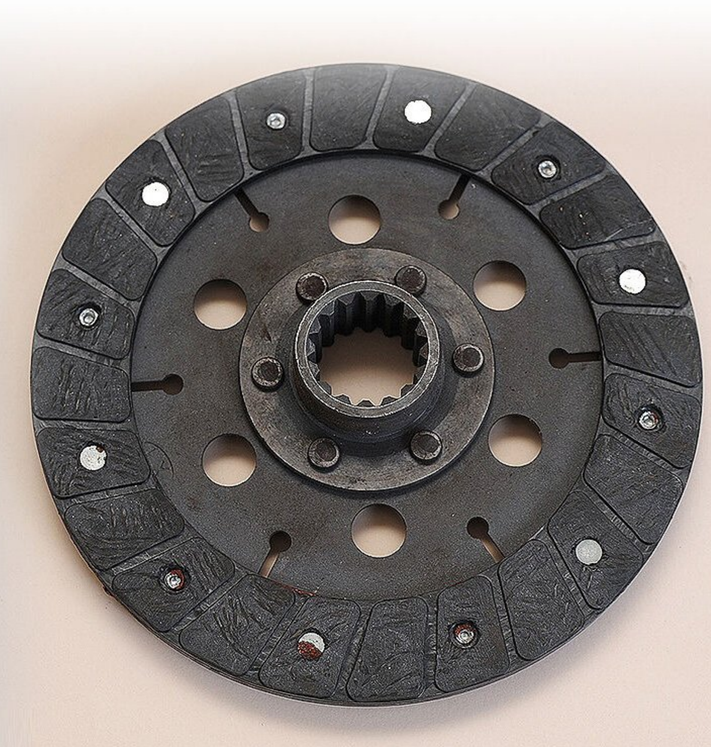
This cold rolling process and equipment change the mechanical properties of the steel, producing certain useful characteristic combinations*, including (but not limited to):

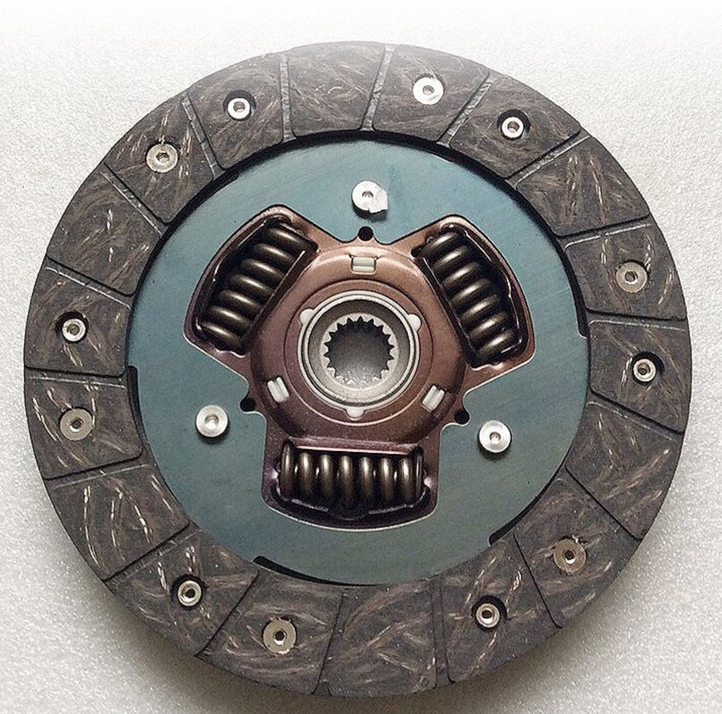
» Ductility

» Hardness

» Stiffness

» Strength





COLD ROLLED AND SPHERODIZED ANNEALED STEEL STRIPS

MANUFACTURING CAPABILITIES

Width	5.5mm to 450mm
Thickness	0.15mm to 5.00mm
Finish	Bright
Flatness	When a 5 meter length of strip is allowed to lie on a flat surface no part of the strip shall lift more than 5mm from flat surface by its own weight
Grades	High Carbon, Medium Carbon, Low Carbon & Alloy Steel
Camber	Maximum Tolerance on edge camber in any 2000mm length : 10mm
Cut Length	Max length 3000mm+5mm-Nil, Minimum Length 500mm+5mm-Nil
Coil Weight	Minimum 1 Kg/mm strip width, Maximum 8 kg/mm strip width
Coil Dimensions	Coil I.D. can be offered with 300mm, 400mm, 450mm and 500mm (Depending on size)
Packing	Coils Lightly Oiled & Wrapped In Protective/ Seaworthy Packing

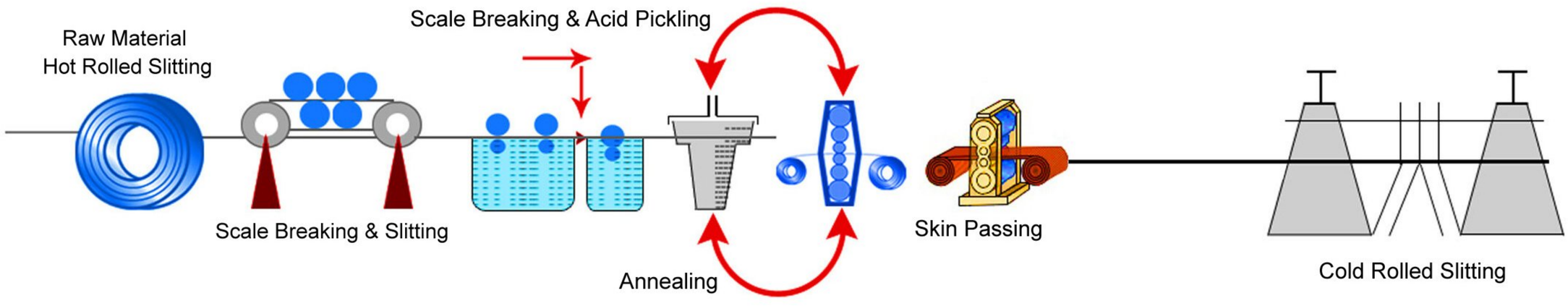
SIZES AVAILABLE (COLD ROLLED STEEL STRIPS)

SPECIFICATIONS	THICKNESS (MM)	WIDTH (MM)
C-50, 55C6, C-60, 65C6, 70C6, 75C6, 80C6, 85C6, 98C6, 50CrV4, SK-5, SK-4, SKS-81,75CR1, 58CrV4, 27MnCrB5-2	0.10-0.50	5-350
	0.50-1.00	5-400
	1.00-2.00	10-400
	2.00-5.00	20-400

MECHANICAL PROPERTIES

GRADE	ANNEALED CONDITION	
	HARDNESS (HV)	U.T.S. (N/mm2)
C-55	155-175	500- 580
C-62	160-180	510-575
C-75	165-185	530-600
C-80	170-190	540-610
C-85	170-210	540-680
C-98	180-220	570-710
50CrV4	160-200	510-640
58CrV4	160-200	510-640
27MnCrB5-2	160-200	510-640

PROCESS FLOW CHART



HARDENED AND TEMPERED STEEL STRIPS

Stelco Limited has become one of the pioneer Manufacturers of Hardened & Tempered Medium & High Carbon Steel Strips with a combined production capacity of about 22000 MT/annum. Our products find wide applications in special industrial uses. Stelco manufactures Hardened & Tempered Steel Strips conforming to National and International Standards viz IS: 2507, DIN 17222. BS: 1449, ASTM A-682. Medium, High Carbon and Low Alloy steel strips (Cold Rolled in-house) are Heat-treated on continuous lines to develop high hardness, toughness, tensile and spring properties.

SPECIAL FEATURES :

» Minimum decarburization
» Uniform Hardness and Texture
» High degree of toughness
» Excellent Spring Properties
» Precision blanking ability
» Minimum edge camber
» Flatness across width
» No curling

CAPACITY Per Annum) :

» Hardened & Tempered Steel Strips 22,000 MT/Annum

The steel grades involved in this range of Hardened and Tempered Steel Strip products are the medium/higher carbon and alloy steels with overall carbon range being 0.35 – 1.30%. Within this range are closely defined standards such as in BS 1449 Part 1 1991, CS50, CS60, CS70, CS80, CS95 and 735A51 specifications. Globally, these would be recognized as say AISI grades 1055, 1060, 1070, 1080, 1095 and 6150 and in the relatively recent European specification EN 10132-4 as C55S, C60S, C67S, C75S, C100S, and 51CrV4.

These steels are most commonly produced with sheared edges and a slightly oxidized blue black (also called blue gray) finish, as these conditions are fully acceptable in engineering component manufacturing. Steel strip with enhanced properties can be produced by edge machining the strip, either before or after the hardening and tempering process. The edge-dressed strip is material where the edge condition from the previous slitting process has been removed, in the Company's case by a very effective in-line, 2-sided machining process which removes the sheared edges which naturally contain a level of micro-cracks and are also of a relatively rough nature. The dressed edge confers a substantial engineering benefit in improved fatigue-resistance properties, this being of particular value in arduous spring-type applications.

HARDENED AND TEMPERED STEEL STRIPS

MANUFACTURING CAPABILITIES

Width	10.00mm to 400mm
Thickness	0.15mm to 4.00mm
Surface Roughness	Ra 0.60 maximum µm.
Finish	Bright/Blue/ Bronze & Grey
Edges	Sheared, Round & Square Edge
Flatness	Maximum 0.025mm/25 mm width
Grades	High/Medium Carbon & Alloy Steel
Camber	1.00mm per 1000mm
Cut Length	Max length 3000mm + 5mm- Nil, Minimum Length 500mm + 5mm – Nil
Coil Weight	1Kg/mm-5Kg/mm
Packing	Coils Lightly Oiled & Wrapped In Protective/ Seaworthy Packing

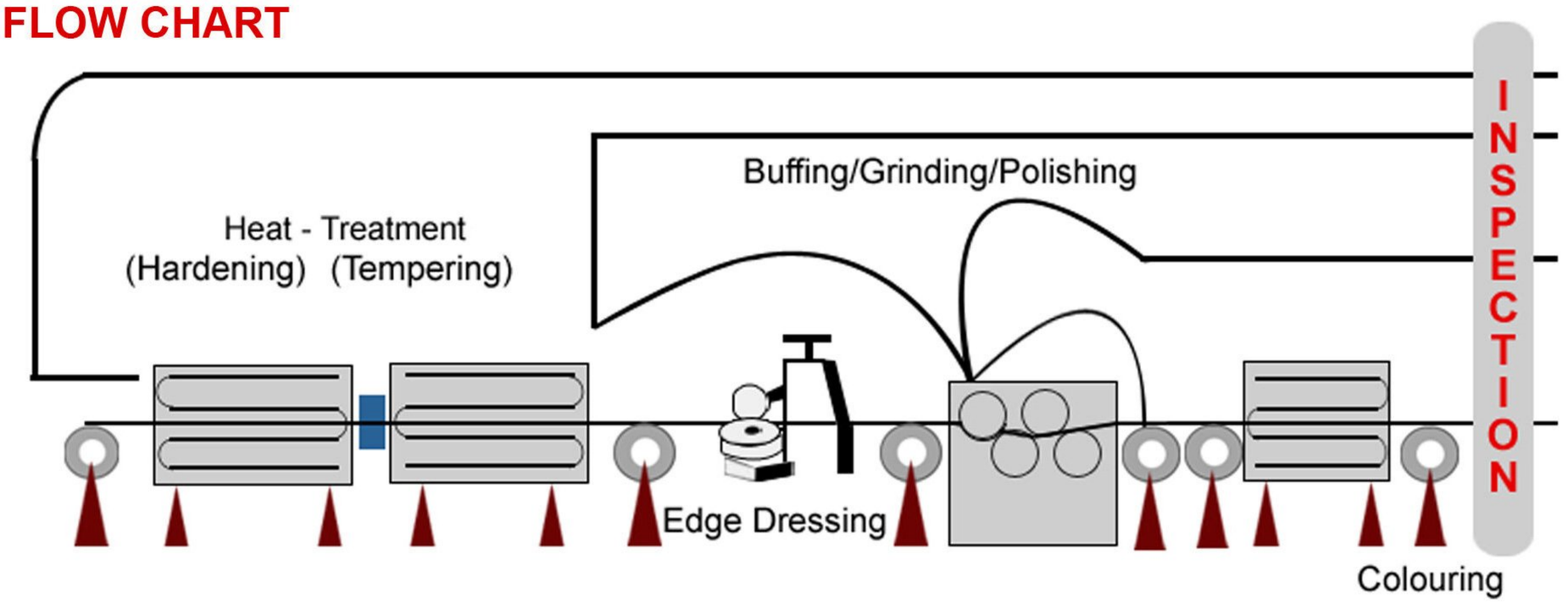
SIZES AVAILABLE (HARDENED AND TEMPERED STEEL STRIPS)

SPECIFICATIONS	THICKNESS (MM)	WIDTH (MM)
C-50, 55C6, C-60, 65C6, 70C6, 75C6, 80C6, 85C6, 98C6, 50CrV4, SK-4, SK-5, 75Cr1, 58CrV4	0.20-0.50	30-250
	0.50-1.00	20-350
	1.00-2.00	10-400
	2.00-4.00	15-400

MECHANICAL PROPERTIES

GRADE	HARDENED & TEMPERED	
	HARDNESS (HV)	U.T.S. (N/mm2)
C-55, C-62, C-65, C-75, C-80, C-85, C-98, 50CrV4, 58CrV4	280-320	900-1030
	320-350	1030-1130
	350-380	1130-1220
	380-420	1220-1350
	420-450	1350-1460
	450-480	1460-1560
	480-520	1560-1700
	520-550	1700-1810

PROCESS FLOW CHART



GANGSAW STEEL

Sawing of marble, granite and other species of rocks for the building industry and other purposes is carried out to large extent in stone gangsaws with diamond segmented blades. Up to 100 saw blades can be fitted in a single set-up.

The demands made on stone sawing call for straight cuts, high cutting speed and maximum utilization of the expensive diamond segmented saw blades.

STELCO Gangsaw steel meets the demands made by saw blade manufacturers and consumers on the quality of the blade material.

Some characteristic properties of STELCO gangsaw steel are:-

» High fatigue resistance. this is an important property, since stone saw blades are frequently exposed to high and varying loads as well as to vibrations i.e. high fatigue stresses.

» High transition temperature, resulting in less risk of undesirable martensite formation during the brazing of the diamond segments.

» A chemical composition which minimizes the risk of cracks in connection with brazing.

» Good flatness and straightness.

» Square, smooth edges which is a pre-requisite for strong & durable joint between the parent blade & segments.

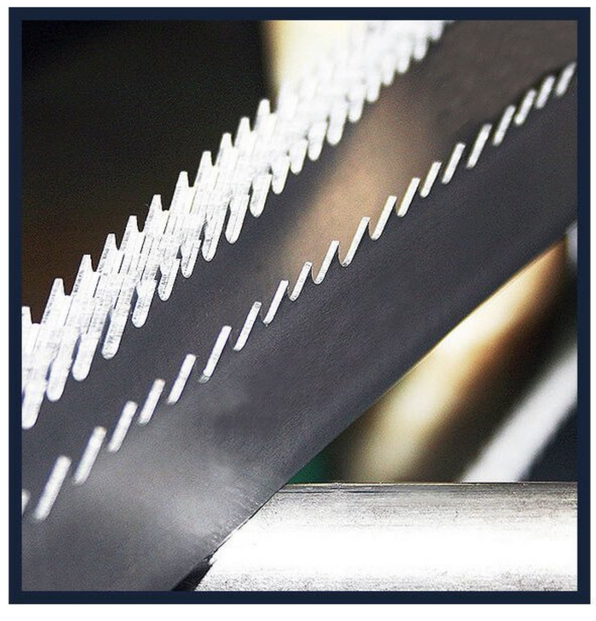
STELCO maintains a high and uniform quality, delivery after delivery and are supplied in two finishes i.e. Bright & Super blue.

STANDARD SIZES

SIZE (MM.)	MASS kg/m	WIDTH TOL±mm	THICKNESS TOL.±mm
180 x 2.00	2.82	0.50	0.030
180 x 2.50	3.53	0.50	0.030
180 x 3.00	4.24	0.50	0.035
180 x 3.50	4.95	0.50	0.035

WOOD WORKING BAND SAW STEEL

STELCO strip steel for the manufacture of wood bandsaws is characterized by mechanical properties combining high strength and toughness which minimize the risk of cracks in connection with spring or swage, setting good flatness and excellent straightness. Its straight and smooth edges are safe to handle.



STEEL GRADES

SAE-1065	C 0.60-0.70	Si 0.10-0.35	Mn 0.50-0.80	S 0.05max.	P 0.05max.
SAE-1075	C 0.70-0.80	Si 0.10-0.35	Mn 0.50-0.80	S 0.05max.	P 0.05max.
SAE-1080	C 0.75-0.85	Si 0.10-0.35	Mn 0.50-0.80	S 0.05max.	P 0.05max.

FORMS OF SUPPLY

Hardened and tempered strip steel in coils

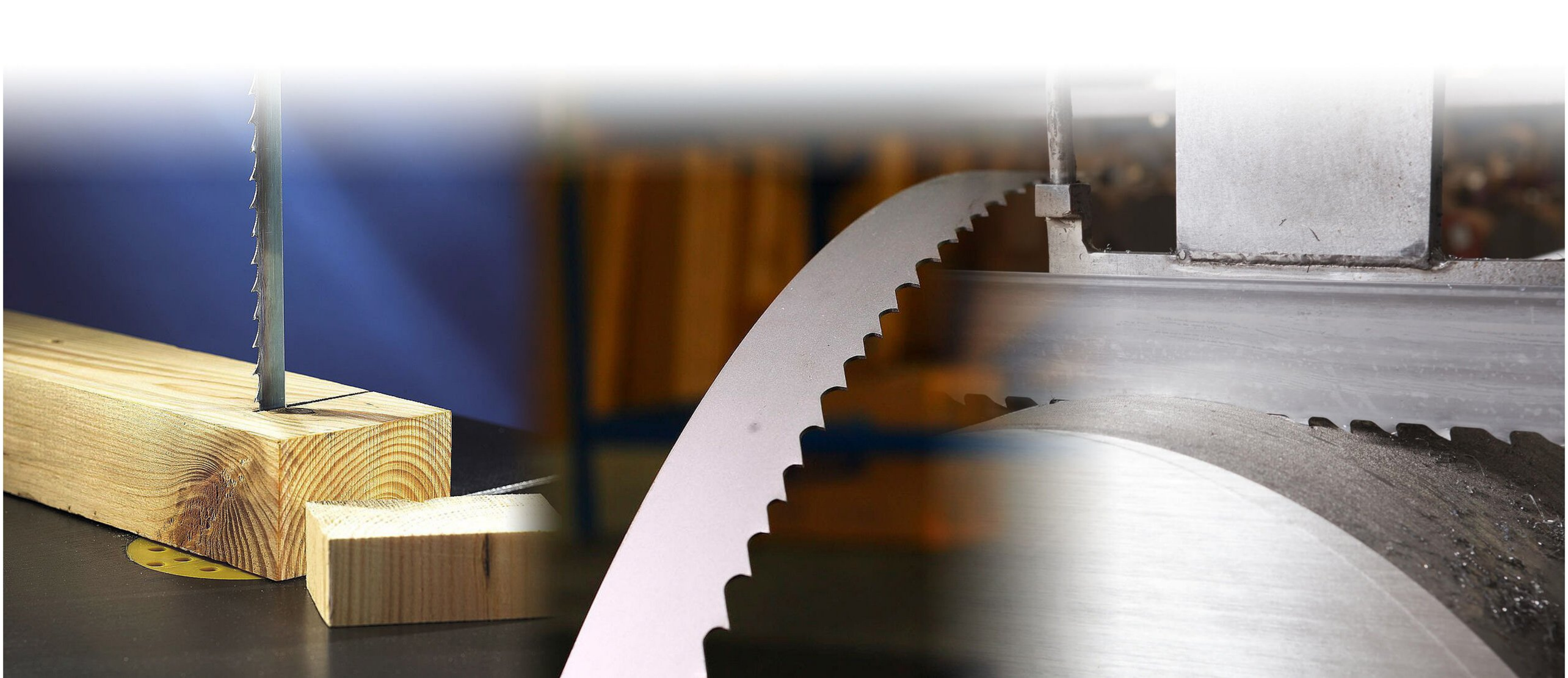
Edges : Smooth Round or square

Flatness : Max. unflatness across the strip width 0.10%

Surfaces : Bright polished, Deep Blue or Yellow/ Golden/ Bronze

MARKING

The strips can be supplied branded as **“STELCO Special Band Saw Steel”**



POLICIES

QUALITY POLICY

Systematic Approach to fulfill customer needs & expectations.

Total customer satisfaction through quality products, on time delivery at competitive prices.

Error proof processes to reduce variation & waste.

Leading to excellence & growth by achieving quality objectives.

Continual improvement in effectiveness of quality management system

Oriented human resource to prevent process and product defects

QUALITY OBJECTIVES

1. Monitoring and Improving the operational performance.

» Reducing rework

» Reducing rejections

» Improve productivity

2. Enhancing customer satisfaction by implementation of Quality Policy.

3. Maintaining 100% on time delivery performance of defect free products.

4. Increasing training hours per employee per year.

Certificate

Standard: **IATF 16949:2016** (1st edition, 2016-10-01)
Certificate Registr. No.: **01 111 127941**
IATF Certificate No.: 0508018

Certificate Holder: **Stelco Limited**
NH7, Bathinda - Barnala Road, Rampura Phul,
Bathinda, Punjab - 151103,
India

IATF USI: 3K3Y2E

Scope: Manufacture of Cold Rolled, Hardened and Tempered Steel Strips.

Excluding Product Design

Proof has been furnished by means of an audit that the requirements of IATF 16949:2016 are met.

Validity: The certificate is valid from 2024-03-27 until 2027-03-26.

Release date: 2024-03-27

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln
Germany - NRW

2-IAO-QMC 01003

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EHS POLICY

We at STELCO LIMITED are committed towards :-

» Provide healthy and safe work place to our associates.

» Protection and preservation of the environment by preventing pollution and controlling emission, effluents and waste generation.

» Make continual improvement in company performance with respect to Environment, Health and Safety.

» Comply with applicable legalization and regulations.

» Create awareness about the EHS

Certificate

Standard: **ISO 14001:2015**
Certificate Registr. No.: **01 104 1836300**

Certificate Holder: **STELCO LIMITED**
Bathinda Road, Rampura Phul,
Punjab, Pin- 151103,
India.

Scope: **Manufacture of Cold Rolled, Hardened and Tempered Steel Strips** .

Proof has been furnished by means of an audit that the requirements of ISO 14001:2015 are met.

Validity: The certificate is valid from 2024-07-12 until 2027-07-11.
First certification 2018

2024-04-01

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

www.tuv.com

DAkkS Deutsche Akkreditierungsstelle D-ZM-16031-01-00

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Certificate

Standard: **ISO 45001:2018**
Certificate Registr. No.: **01 213 1836300**

Certificate Holder: **STELCO LIMITED**
Bathinda Road, Rampura Phul,
Punjab, Pin- 151103,
India.

Scope: **Manufacture of Cold Rolled, Hardened and Tempered Steel Strips**.

Proof has been furnished by means of an audit that the requirements of ISO 45001:2018 are met.

Validity: The certificate is valid from 2024-04-01 until 2027-03-11.
First certification 2024

2024-04-01

TÜV Rheinland Cert GmbH
Am Grauen Stein · 51105 Köln

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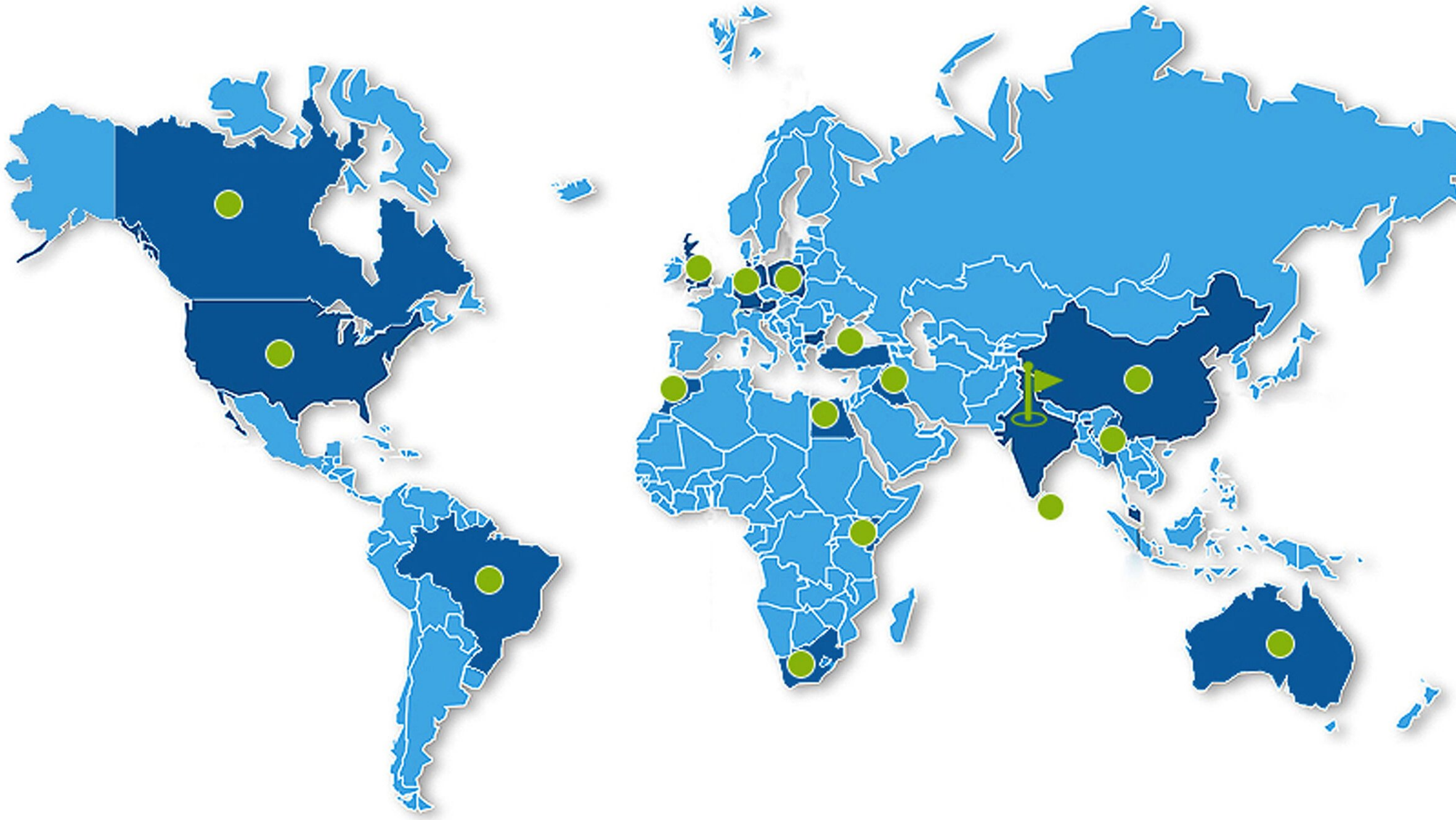

STELCO LIMITED

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LUDHIANA OFFICE

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