

# HIGH STRENGTH STEEL STRIPS/SHEETS

## EN 10149-2

High strength steels are micro-alloyed (Nb, Ti, V) steels with low carbon content that have higher mechanical strength than conventional steels.

These steels are particularly indicated for situations where the strength-to-weight ratio is a determining factor, namely in the development and construction of load-bearing structures, cranes, aerial platforms, telescopic functions or heavy-duty vehicle trailers (increased payload).

This solution also allows for a significant reduction in thickness of the materials without losing essential properties, such as resistance to abrasion.

## DIMENSIONAL PROPERTIES

### Sheet width tolerances

Nominal width (mm)	Raw edge tolerance (mm)		Trimmed edge tolerances (mm)	
	Lower	Higher	Lower	Higher
≤ 1200	0	+ 20	0	+ 3
> 1200 ≤ 1500	0	+ 20	0	+ 5
> 1500	0	+ 25	0	+ 6

# DIMENSIONAL PROPERTIES

## Thickness tolerance

Nominal thickness (mm)	Tolerances for nominal width (mm)			
	≤ 1200	> 1200 ≤ 1500	> 1500 ≤ 1800	> 1800
≤ 2,0	± 0,17	± 0,19	± 0,21	-
> 2,00 ≤ 2,50	± 0,18	± 0,21	± 0,23	± 0,25
> 2,50 ≤ 3,00	± 0,20	± 0,22	± 0,24	± 0,26
> 3,00 ≤ 4,00	± 0,22	± 0,24	± 0,26	± 0,27
> 4,00 ≤ 5,00	± 0,24	± 0,26	± 0,28	± 0,29
> 5,00 ≤ 6,00	± 0,26	± 0,28	± 0,29	± 0,31
> 6,00 ≤ 8,00	± 0,29	± 0,30	± 0,31	± 0,35
> 8,00 ≤ 10,00	± 0,32	± 0,33	± 0,34	± 0,40
> 10,00 ≤ 12,50	± 0,35	± 0,36	± 0,37	± 0,43

## Length tolerances

Length (mm)	Normal tolerance (mm)	
	Lower	Higher
< 2000	0	+10
≥ 2000 < 8000	0	0,5% of the length
≥ 8000	0	+40

## Flatness tolerances of low carbon steel sheets

Nominal thickness (mm)	Nominal width (mm)	Flatness tolerance (mm)	Special tolerances (mm)
≤ 2,00	≤ 1200	18	9
	> 1200 ≤ 1500	20	10
	> 1500	25	13
> 2,00 ≤ 25	≤ 1200	15	8
	> 1200 ≤ 1500	18	9
	> 1500	23	12

# TABLE OF DIMENSIONS

Thickness (mm)	Width (mm)											
	1000			1250			1500			2000		
	Sheets (kg)	Units p/ Bundle	Bundle (kg)	Sheets (kg)	Units p/ Bundle	Bundle (kg)	Sheets (kg)	Units p/ Bundle	Bundle (kg)	Sheets (kg)	Units p/ Bundle	Bundle (kg)
1,5	23,55	110	2591	36,8	70	2576	52,99	50	2649			
2	31,4	80	2512	49,06	50	2453	70,65	35	2473			
2,3	36,11	70	2528	56,42	40	2257	81,25	30	2437			
2,5	39,25	64	2512	61,33	40	2453	88,31	30	2649			
3	47,1	55	2591	73,59	34	2502	105,98	25	2649	188,4	13	2449
4	62,8	40	2512	98,13	26	2551	141,3	18	2543	251,2	10	2512
5	78,5	32	2512	122,66	21	2576	176,63	14	2473	314	8	2512
6	94,2	27	2543	147,19	17	2502	211,95	12	2543	376,8	7	2638
8	125,6	20	2512	196,25	13	2551	282,6	10	2826	502,4	5	2512
10	157	16	2512	245,31	10	2453	353,25	8	2826	628	4	2512
12	188,4	14	2638	294,38	9	2649	423,9	6	2543	753,6	3	2261
<b>Length ref. (mm)</b>	2000			2500			3000			4000		

# STEEL GRADES

Steel Grade	Chemical properties											Mechanical properties			
	Nominal thicknesses % by mass											R <sub>eh</sub> mín. (Mpa)	R <sub>m</sub> (Mpa)	L <sub>0</sub> = 80mm Thickness (mm)	L <sub>0</sub> = 5,65 vS <sub>0</sub> Thickness (mm)
	C % máx.	Mn % máx.	Si % máx.	P % máx.	S % máx.	Al <sub>total</sub> % máx.	Nb a) % máx.	V a) % máx.	Ti a) % máx.	Mo % máx.	B % máx.			< 3	≥ 3
S315MC	0,12	1,30	0,50	0,025	0,020	0,015	0,09	0,20	0,15	-	-	315	390-510	20	24
S355MC	0,12	1,50	0,50	0,025	0,020	0,015	0,09	0,20	0,15	-	-	355	430-550	19	23
S420MC	0,12	1,60	0,50	0,025	0,015	0,015	0,09	0,20	0,15	-	-	420	480-620	16	19
S460MC	0,12	1,60	0,50	0,025	0,015	0,015	0,09	0,20	0,15	-	-	460	520-670	14	17
S500MC	0,12	1,70	0,50	0,025	0,015	0,015	0,09	0,20	0,15	-	-	500	550-700	12	14
S550MC	0,12	1,80	0,50	0,025	0,015	0,015	0,09	0,20	0,15	-	-	550	600-760	12	14
S600MC	0,12	1,90	0,50	0,025	0,015	0,015	0,09	0,20	0,22	0,50	0,005	600	650-820	11	13
S650MC	0,12	2,00	0,60	0,025	0,015	0,015	0,09	0,20	0,22	0,50	0,005	650	700-880	10	12
S700MC	0,12	2,10	0,60	0,025	0,015	0,015	0,09	0,20	0,22	0,50	0,005	700	750-950	10	12

a) The sum of Nb, V and Ti cannot be greater than 0.22%

# SUPPLY CONDITIONS

## PACKAGING

The material is available in strips/coils, strapped with bands of steel and, in the case of shaped sheets, in bundles wrapped in protective film. To facilitate the handling of bundles (loading/unloading), they are supported by wooden beams.

## LABELING

Each strip/coil/bundle is supplied with a label, ensuring proper identification of the product and its traceability.

## CERTIFICATE

Each order will be accompanied by the corresponding inspection certificate according to EN 10204, in accordance with the product's applicable standard.

# SUPPLY OPTIONS

## SPECIAL TOLERANCES

THICKNESS, LENGTH AND WIDTH:

This product is supplied with thickness, width, and length tolerances (in the case of shaped sheets) in accordance with the applicable standard. Special tolerances may be available upon request. Edge trimming possible.

STEEL GRADES:

The possibility of supplying other steel grades not mentioned above can be evaluated upon request.

## COATINGS AND SURFACE TREATMENTS

The products are supplied in accordance with the applicable standards, with the possibility of additional treatments/coatings as previously requested at the time of the inquiry/order, under the customer's responsibility.

## LABORATORY TESTS

Possibility of requesting specific laboratory tests, not foreseen in the applicable standard (anisotropy, salt fog, metallography, thickness elongation, among others)

## WRAPPING AND PACKAGING

The strips/coils/bundles can be configured according to the client's specifications, as requested at the time of the inquiry/order. Possibility of using packaging with anticorrosion protection (VCI).

# APPLICATION AREAS



INDUSTRY



CONSTRUCTION



ENGINEERING  
AND ARCHITECTURE