



Cold-rolled
Steel Strip

voestalpine

ONE STEP AHEAD

Cold-rolled Steel Strip by voestalpine

Excellent surface quality.

Outstanding cold formability.

High homogeneity of mechanical properties.

The wide range of steel grades provides the optimum material for various applications – from the simple sections to the complex deep drawing parts.

State-of-the-art cold-rolling mills guarantee the production of high-quality cold-rolled steel strips with narrowest thickness tolerances.

A milestone in continuous annealing technology is our Calvas (continuous annealing line of voestalpine Stahl) producing cleanest cold-rolled steel strips with homogeneous mechanical properties and excellent surface quality over the entire strip length.

The line incorporates the H₂ annealing method which has been applied since 1989.

Thus voestalpine is in a position to utilize the optimum annealing technology with respect to customer requirements.

Applications

Household Appliance Industry

- Washing machines, dishwashers and tumble dryers
- Refrigerators
- Stoves
- Hot water accumulator

Radiator Industry

- Contoured radiators
- Ribbed radiators
- Panel radiators
- Design radiators

Special Applications

- Oil filter pans
- Casings of lawnmowers

Automotive Industry

- Car body parts with low corrosion load

Packing Industry

Section and Tube Manufacturers



The Advantages

Perfect Surface Quality

Cold-rolled steel strips produced by voestalpine satisfy the most stringent requirements with respect to surface appearance and surface cleanliness.

Excellent Forming Behavior

Outstanding deep drawing properties combined with maximum homogeneity of the mechanical properties guarantee the use of cold-rolled steel strip for a wide range of applications.

Optimum Paintability

The most modern texturing methods ensure a homogeneous roughness structure over the entire cold-rolled steel strip. Thus the best preconditions for subsequent coating and painting operations are provided.

Best Weldability

The highest surface cleanliness guarantees longer electrode lives, faster welding speeds and reproducibly favourable welding results.

Very Good Suitability for Enamelling

Special chemical compositions in combination with adjusted coiling and annealing parameters ensure excellent material characteristics of the base material (steel) which are necessary for modern enamelling processes.

High Flexibility and Technical Competence

Excellent supply service, high flexibility and technical competence add to the voestalpine product range in order to comply with the increasing demands of our customers. The right partner for the best in the world.

Steel Grades

Guaranteed Mechanical Properties

Steel Grade	0.2 % Yield Strength $R_{p,0.2}$ [MPa]	Tensile Strength R_m [MPa]	Fracture Elongation A_{80} [%] (min.)	Vertical Anisotropy r_{90} (min.)	Hardening Exponent n_{10} (min.)	Bake- Hardening- Value BH_2 [MPa] (min.)	Sample Direction
Mild Steels for Cold Forming							
DC 01	140 - 280	270 - 410	28	–	–		transv.
DC 03	140 - 240	270 - 370	34	1.3	–		transv.
DC 04	140 - 210	270 - 350	38	1.6	0.18		transv.
DC 05	140 - 180	270 - 330	40	1.9	0.20		transv.
DC 06	120 - 170	270 - 330	41	2.1	0.22		transv.
DC 07	120 - 150	250 - 310	44	2.5	0.23		transv.
Enamelling Steels							
DC01EK	140 - 270	270 - 390	30	–	–		transv.
DC04EK	140 - 220	270 - 350	36	–	–		transv.
DC06EK	120 - 190	270 - 350	38	1.6 (rm)	–		transv.
DC03ED TIVac	140 - 220	270 - 360	34	–	–		transv.
DC04ED TIVac	140 - 200	270 - 350	38	–	–		transv.
Micro-alloyed Steels							
HC260LA	260 - 330	350 - 430	26				transv.
HC300LA	300 - 380	380 - 480	23				transv.
HC340LA	340 - 420	410 - 510	21				transv.
HC380LA	380 - 480	440 - 560	19				transv.
HC420LA	420 - 520	470 - 590	17				transv.
Phosphorus-alloyed Steels							
HC220P	220 - 270	320 - 400	32	1.3	0.16		transv.
HC260P	260 - 320	360 - 440	29	–	–		transv.
HC300P	300 - 360	400 - 480	26	–	–		transv.
Bake-hardening Steels							
HC180B	180 - 230	300 - 360	34	1.6	0.17	35	transv.
HC220B	220 - 270	320 - 400	32	1.5	0.16	35	transv.
HC260B	260 - 320	360 - 440	29	–	–	35	transv.
HC300B	300 - 360	400 - 480	26	–	–	35	transv.
Higher-strength IF Steels							
HC180Y	180 - 230	340 - 400	36	1.7	0.19		transv.
HC220Y	220 - 270	350 - 420	34	1.6	0.18		transv.
HC260Y	260 - 320	380 - 440	32	1.4	0.17		transv.



Steel Grades and Guaranteed Mechanical Properties

Steel Grade	0.2 % Yield Strength $R_{p0.2}$ [MPa]	Tensile Strength R_m [MPa] (min.)	Fracture Elongation A_{80} [%] (min.)	Vertical Anisotropy r_{90} (min.)	Hardening Exponent n_{10-20} (UE) (min.)	Bake-Hardening-Value BH_2 [MPa] (min.)	Sample Direction
Dual-phase Steels							
HCT450X	260 - 340	450	27		0.16	30	transv.
HCT500X	300 - 380	500	23		0.15	30	transv.
HCT600X	340 - 420	600	20		0.14	30	transv.
HCT780X	450 - 560	780	14		–	30	transv.
HCT980X	600 - 750	980	10		–	30	transv.
Complex-phase Steels							
HCT780C	500 - 700	780	10			30	transv.
HCT980C	700 - 900	980	7			30	transv.
TRIP Steels							
HCT690T	430 - 550	690	23		0.18	40	transv.
HCT780T	470 - 600	780	21		0.16	40	transv.

Notes

- The guaranteed mechanical properties may be limited by the product thickness.
- For detailed data see the Technical Terms of Delivery for Cold-Rolled Steel Strips Produced by voestalpine.

Available Shapes and Dimensions

Thickness in [mm] ¹⁾	Width in [mm] ²⁾	Max. Outer Diameter in [mm]	Approx. Inner Diameter in [mm]
≥ 0.4 - ≤ 3.00	≥ 600 - ≤ 785	2,000	600/500
≥ 0.4 - ≤ 3.00	≥ 900 - ≤ 1,600 ³⁾	2,000	600/500

¹⁾ Inner diameter approx. 500 mm up to < 2.5 mm only (for thicknesses ≥ 2.5 mm upon request only).

²⁾ Different widths only upon request.

³⁾ With limited width tolerance max. 1,590 mm.

Slit coils and cut sheets are offered by our subsidiary company voestalpine Steel Service Center.

Surface Quality

Cold-rolled steel strip is available in surface quality A and B.

Surface Condition

- Smooth ($R_a \leq 0.9 \mu\text{m}$)
- Matte ($0.6 \mu\text{m} \leq R_a \leq 1.9 \mu\text{m}$)
- Rough ($R_a > 1.6 \mu\text{m}$)

Surface Re-treatment

- Oiled
- Unoiled (upon request only)

Technically More Advanced. Successful Together. voestalpine – The Partner You Can Trust.

High-quality materials are the basis for our products. We strive to be the best partner for our customers and want to provide them with the best-possible solution. We focus our expertise on two aspects: personal contact with dedicated, competent employees and high-quality technically sound methods, products and services.

The companies in the voestalpine Steel Division pledge the following:

- Understanding for the business of our customers
- Dedication to professionalism
- Reliability
- Partnerships based on trust
- Responsibility for satisfactory project completion

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