

Alleima® Print XP

Strip steel

Datasheet

Alleima® Print XP is a hardened and tempered carbon steel used for printing doctor blade applications. The grade is a special martensitic alloy steel, particularly suitable for abrasive inks and is characterized by:

- Extremely high wear resistance
- Good straightness
- Good dimensional tolerances
- Excellent edge finish

Chemical composition (nominal)

Chemical composition (nominal) %

C	Si	Mn	Cr	Mo	W
0.5	0.8	0.3	4.0	1.5	2.0

Forms of supply

Alleima® Print XP is supplied in coils with inner diameter 350 mm (13.8 in.). Approximately 15 meters of strip material is unshaved on the innermost rings of the coil.

Dimensions

Thickness, mm (in.)		Width, mm (in.)	
min.	max.	min.	max.
0.152 (0.006)	0.305 (0.012)	8.00 (0.315)	70.0 (2.76)

Other sizes can be offered on request.

Surface condition

Surfaces offered are white or bronze polished.

Surface roughness

Surface roughness is measured transversal to the rolling direction with a cut off length of 0.25 mm (0.0098 in.).

Thickness, mm (in.)	Ra μm ($\mu\text{in.}$)	Rmax μm ($\mu\text{in.}$)
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0.152 (0.006) - 0.305 (0.012)

(Y8) 0.05 - 0.125 (2 - 5)

1.5 (60)

Surface defects

Maximum allowed depth of surface defects (excluding burrs):

Thickness, mm (in.)	Scratches, μm ($\mu\text{in.}$)	Single minor surface defects, μm ($\mu\text{in.}$)
0.152 (0.006) - 0.305 (0.012)	≤ 5 (200)	≤ 5 (200)

Edges

As standard, strip is supplied with round, shaved edges with no sharp corners and with no friction-induced martensite. Edge surface defects such as pits or burrs, $\leq 5 \mu\text{m}$ (200 $\mu\text{in.}$).

The edge radius should be at least equal to half of the strip thickness.

Tolerances

Shape

Straightness

Width > 12.1 mm, R spec = max 1.4 mm deviation on a 3000 mm length.

Widths < 12 mm, R spec = max 2.5 mm deviation on a 3000 mm length.

Flatness

Cross bow hardened and tempered strip (H/T) in all tensile strengths (P1 is the Alleima standard).

Tolerance class	Cross bow % of width
	H/T condition
P0	No requirements
P1	max. 0.4
P2	max. 0.3
P3	max. 0.2

Other tolerances may be possible on request.

Surface roughness

Tolerance	Limit Ra μm ($\mu\text{in.}$)	Mean Ra μm ($\mu\text{in.}$)
Y8	0.05-0.125 (2-5)	0.08 (3)

Width (B1 is standard)

Thickness	Width	Width tolerance +/- mm		
mm	mm	B1	B2	B3

0.152 - 0.25	8 - <20	0.07	0.05	0.03
	20 - <50	0.10	0.07	0.05
	50 - <70	0.15	0.11	0.07
0.251 - 0.305	8 - <20	0.10	0.07	0.05
	20 - <50	0.15	0.11	0.07
	50 - <70	0.20	0.15	0.10

Thickness (T1 is standard)

Thickness	Width	Thickness tolerance +/- mm		
mm	mm	T1	T2	T3
0.152 - <0.16	8 - 70	0.009	0.006	0.005
0.16 - <0.2	8 - 70	0.01	0.007	0.005
0.2 - <0.25	8 - 70	0.011	0.008	0.006
0.25 - <0.305	8 - 70	0.013	0.009	0.007

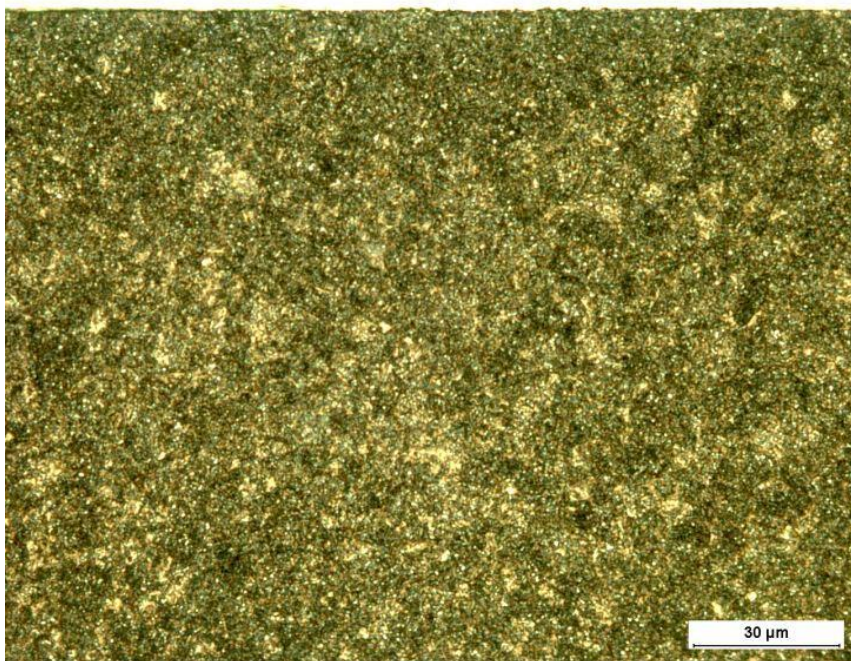
Mechanical properties

Thickness mm (in.)	Tensile strength R _m		Hardness*
	MPa	ksi	Vickers, HV
0.152 (0.006)	2250 +/- 100	326 +/- 14.5	650 +/-25
0.203 (0.008)	2250 +/- 100	326 +/- 14.5	650 +/-25
0.254 (0.010)	2250 +/- 100	326 +/- 14.5	650 +/-25
0.305 (0.012)	2250 +/- 100	326 +/- 14.5	650 +/-25

* Hardness (HV) values are given for information only.

Microstructure

The microstructure is uniform and consists of tempered martensite with an extra high amount of small carbides.



Disclaimer:

Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Alleima materials.