



HR440Y580T-FB

Bainitic grade

Material no.	-
according to	VDA 239-100
Tensile strength class	D
IMDS	78678124

Usage

The thermo-mechanically rolled, microalloyed steel grade HR440Y580T-FB features a high tensile strength of 590 MPa with sufficient elongation for forming applications, such as rectangular tubes and profiles. Due to its chemical composition, it offers good weldability.

Chemical composition¹⁾

in percent by weight

	min. in %	max. in %
C		0.18
Mn		2.00
Si		0.50
P		0.050
S		0.010
Al	0.015	2.0
Ti+Nb		0.15
Cr+Mo		1.00
B		0.010
Cu		0.20

1) Heat analysis

Mechanical properties tensile test ²⁾

Yield strength $R_{p0.2}$ in MPa	
longitudinal	440 – 600
transversal	470 – 590

Tensile strength R_m in MPa	
longitudinal	580 – 700
transversal	590 – 710

Total elongation $A^{3)}$ in MPa		
	Nom. thick. e in mm	
longitudinal	$2 \leq e < 3$	≥ 15
transversal	$2 \leq e \leq 3$	≥ 16
transversal	$3 \leq e \leq 6$	≥ 18

Bake Hardening BH_2	
longitudinal	≥ 30
transversal	-

2) The testing is based on the material information sheet in transverse direction and according to VDA in longitudinal direction.

3) It applies to nominal thickness e:

e < 3 mm: A_{80}

e ≥ 3 mm: A_5

Available dimensions

Hot-rolled coils unpickled, mill edge

Thickness in mm	Width in mm
2.00 – 2.99	900 – 1,300
3.00 – 3.99	900 – 1,450
4.00 – 6.00	900 – 1,500

Hot-rolled coils pickled, mill edge

Thickness in mm	Width in mm
2.00 – 2.99	900 – 1,300
3.00 – 3.99	900 – 1,450
4.00 – 6.00	900 – 1,500

Thicknesses ≤ 2 mm up and widths ≥ 1,530 mm up on request.

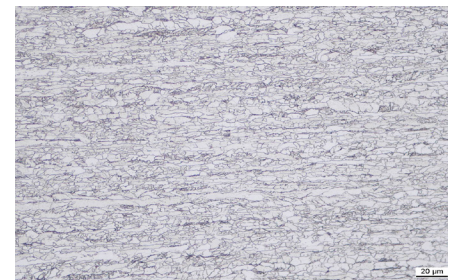
Trimmed material up on request.

Hot-rolled coils, slit lengthwise

Thickness in mm	Width in mm
2.00 – 2.99	100 – 640
3.00 – 4.60	100 – 690
4.61 – 5.99	100 – 740

Microstructure

The microstructure consists of a ferritic matrix with insularly embedded bainite. Perlite can occur in contents smaller than the bainite content.



Application examples

Thanks to the combination of high yield strength and high fracture elongation, the HR440Y580T-FB is appropriate to chassis parts with complex geometry, for example transverse links.

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