

SZBS600

Bainitic grade

Material no.	–
SZFG Material data sheet	
Tensile strength class	D

Usage

The thermo-mechanically rolled, microalloyed steel grade SZBS600 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 composition ¹⁾²⁾

in percent by weight (Heat analysis):

	min.	max.
C	0,05%	0,10%
Mn	1,20%	1,70%
Si		0,15%
P		0,015%
S		0,010%
Al	0,015%	
B		0,004%

In addition, the elements Nb, V and Ti are each alloyed either individually or in combination ($Nb + V + Ti \leq 0,200\%$).

Mechanical properties tensile test ¹⁾

Nom. thick. e	Yield strength R_{p02}
	480 - 580 MPa

Nom. thick. e	Tensile strength R_m
	590 - 670 MPa

Nom. thick. e	Total elongation $A^{2)}$
$2 \leq e < 3$ mm	$\geq 16\%$
$3 \leq e \leq 6$ mm	$\geq 23\%$

1) The tensile test values given in the table apply to transverse samples.

2) It applies to nominal thickness e:
e < 3 mm: A_{80}
e \geq 3 mm: A_5

Mikrostructure

The structure consists of bainite, occasionally there can be also further components like ferrite and perlite.



Available dimensions

thickness in mm	width in mm
2,00 – 2,99	1300
3,00 – 3,99	1450
4,00 – 6,00	1500

Application examples

Thanks to the combination of high yield strength and high fracture elongation, the SZBS600 is appropriate to chassis parts with complex geometry, for example transverse links.