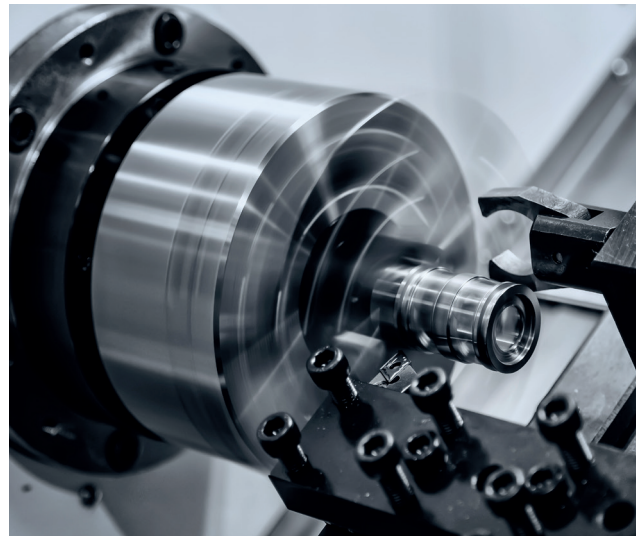


PRODUCT INFORMATION

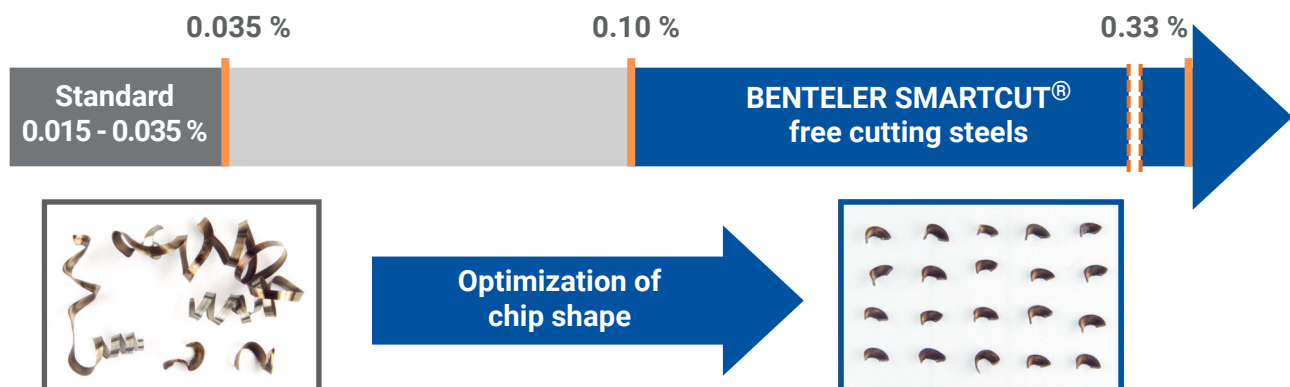
BENTELER SMARTCUT[®]

BENTELER Steel/Tube is a leading global manufacturer of seamless and welded tubes. We fully support our customers along the entire value chain, from the initial idea to the technical implementation. This generates highly customer-oriented tube solutions for the automotive, energy and industrial markets.

With BENTELER SMARTCUT[®] the material class of the free cutting steels is made available to the tube market for the first time. Free cutting steel is specifically designed for machining and is based on the positive effect of sulfur alloy. The specified minimum sulfur level of 0.10 % is far above the usual content of 0.035 % specified in standard tubes. One of the numerous positive effects is a significant increase in productivity.



Sulfur content:



YOUR ADDED VALUE

- › excellent machinability
- › chip formation: greatly improved
- › tool life: up to 4 times higher
- › processing costs: up to 40 % less
- › material savings: over 50 % compared to bar steel are not uncommon
- › reduced carbon footprint through electric arc steel
- › guaranteed lead-free (compliant to EU-REACH-regulation)
- › calcium treated (wear reduction)
- › optional: with heat treatment
- › optional: with machined inner surface
- › optional: In short length

BENTELER SMARTCUT®

BENTELER SMARTCUT® free cutting steel tubes are characterized by an increased sulfur content of at least 0.10 % and greatly improved machinability.

E355 Plus E470 Plus	<ul style="list-style-type: none"> mechanical requirements for E355/E470 fulfilled guaranteed sulfur content 0.10 – 0.14 %
SMARTCUT 360 SMARTCUT 420 SMARTCUT 550 SMARTCUT 700	<ul style="list-style-type: none"> improved mechanical characteristics exceeds common standards guaranteed sulfur content 0.10 – 0.18 %
36SMn14 11SMn30	<ul style="list-style-type: none"> analysis and mechanical values according to ISO 683-4 guaranteed sulfur content up to 0.33 %

min. 0,10 % sulfur

PRODUCT DATA

hot/cold tube	material	delivery condition	tensile test				
			R _{eH} [MPa]		R _m [MPa]		A [%]
			WT ≤ 16mm	WT > 16 - 25 mm	WT ≤ 16 mm	WT > 16 - 25 mm	
hot	E355 Plus	+AR, +N, +SR	≥ 355	≥ 345	≥ 490		≥ 20
	E470 Plus	+AR, +N, +SR	≥ 470	≥ 430	≥ 650	≥ 600	≥ 17
	SMARTCUT 360	+AR, +N, +SR	≥ 360	≥ 345	≥ 490		≥ 21
	SMARTCUT 420	+AR, +N, +SR	≥ 420	≥ 380	620 - 860	600 - 850	≥ 15
	SMARTCUT 550	+QT	≥ 550	≥ 500	≥ 700	≥ 650	≥ 15
	SMARTCUT 700	+QT	≥ 700	≥ 600	≥ 950	≥ 850	≥ 11
cold	E355 Plus	+N	≥ 355		490 - 630		≥ 22
		+SR	≥ 450		≥ 580		≥ 10
		+C	-		≥ 640		≥ 4
	SMARTCUT 360	+N	≥ 360		520 - 630		≥ 25
		+SR	≥ 560		≥ 650		≥ 14
		+C	≥ 650		≥ 700		≥ 6
	SMARTCUT 420	+A	≥ 400		580 - 680		≥ 20
		+N	≥ 420		650 - 720		≥ 18
		+SR	≥ 650		≥ 740		≥ 14
		+QT	≥ 700		≥ 800		≥ 14

Dimensions and other mechanical values (e.g. hardness, KV) on request.