

1.2767 45 NiCrMo 16

Tool steel for heavily stressed solid forging tools, cold heading tools, cold shear blades, and for the production of plastic molds.

Color coding:

Purple (1.2767)



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WebShop:  www.stahlnetz.de

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GEBRÜDER RECKNAGEL 
Präzision in Stahl **241**

1.2767 45 NiCrMo 16

PräziPlan® - Precision flat steel
(according to DIN 59350)

Execution:

Annealed,
Maximum hardness 285 HB,
Thickness ground with Ra = 6 µm,
Width finely machined, Machined
with decarburization-free treatment
on all sides.

Tolerances:

width: +0.2 / -0 mm
thickness: +0.2 / -0 mm
length: +20.0 / -0 mm



length: 500 mm price per piece

		thickness [mm]											
		4.2	5.2	6.2	8.2	10.4	12.4	16.4	20.4	25.4	32.4	40.4	50.4
width [mm]	10.3	12	13	14	16								
	12.3	13	14	15	17	20							
	16.3	14	15	16	18	21	22						
	20.3	15	16	18	19	22	23	29					
	25.3	16	17	20	21	23	26	33	37				
	32.3	18	19	22	24	28	32	41	44	55			
	40.3	20	21	24	28	31	37	48	51	65	76		
	50.3	22	24	28	32	37	42	53	64	74	90	102	
	63.3	28	29	33	38	43	51	64	76	90	111	123	147
	80.3	32	35	40	48	53	58	76	88	108	138	147	180
	100.3	37	40	48	56	66	75	97	109	127	161	180	254
	125.3	49	52	68	69	82	91	117	132	148	191	213	278

square, length: 500 mm price per piece

	10.4	12.4	16.4	20.4	25.4	32.4	40.4	50.4
	19	22	28	34	48	70	91	128

We provide special configurations quickly and affordably!

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Präzision in Stahl

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PräziPlan® - Precision flat steel (according to DIN 59350)

Execution:

Annealed,
Maximum hardness 285 HB,
Thickness ground with Ra = 6 µm,
Width finely machined,
All around decarburization-free treatment.

Tolerances:

width: +0,2 / -0 mm
thickness: +0,2 / -0 mm
length: +20,0 / -0 mm

length: 1,000 mm price per piece

width [mm]	thickness [mm]									
	8.2	10.4	12.4	16.4	20.4	25.4	32.4	40.4	50.4	
20.3	30	34	38	45						
25.3	32	36	40	53	57					
32.3	38	42	51	60	70	91				
40.3	40	44	53	69	79	99	117			
50.3	46	54	56	79	94	115	136	159		
63.3	57	65	75	92	111	136	168	200	230	
80.3	71	81	92	117	131	152	191	223	259	
100.3	89	101	115	134	157	183	225	288	334	
125.3	120	135	146	184	201	226	287	356	415	

square, length: 1,000 mm price per piece

	10.4	12.4	16.4	20.4	25.4	32.4	40.4	50.4
	31	36	44	52	78	103	126	183

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GEBRÜDER RECKNAGEL  Präzision in Stahl 243

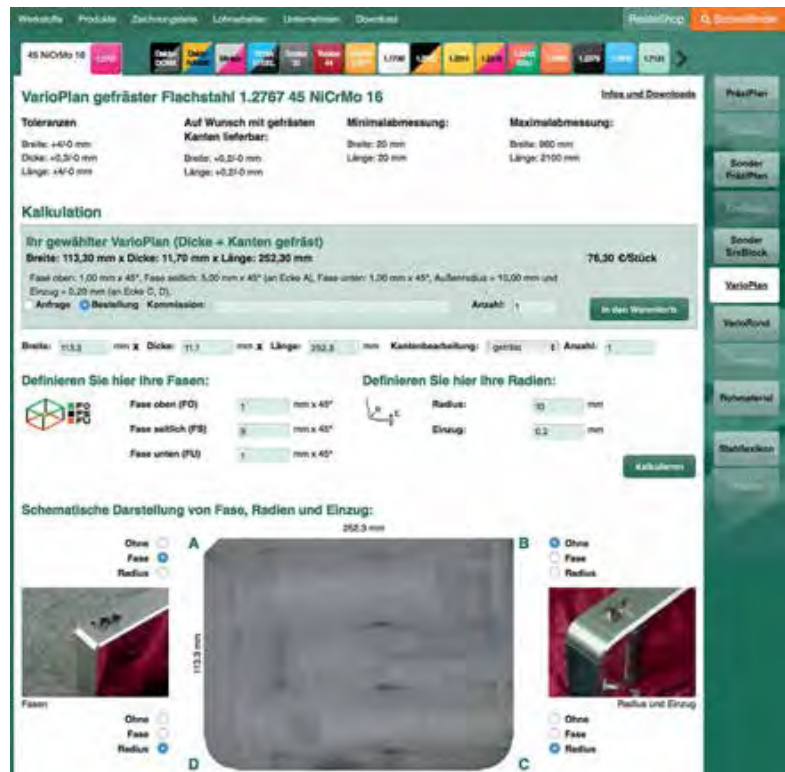
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VarioPlan®

Finely milled semi-finished products in freely selectable dimensions.

- Flexible in width, thickness, and length
- Edges sawn or milled
- Optionally with bevels and/or corner radius
- Manufacturing in 2 to 3 days
- Easy calculation

Use our online calculation tool in the webshop: www.varioplan.de.



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VarioRond®

Round material sections with freely selectable length at a unit price.

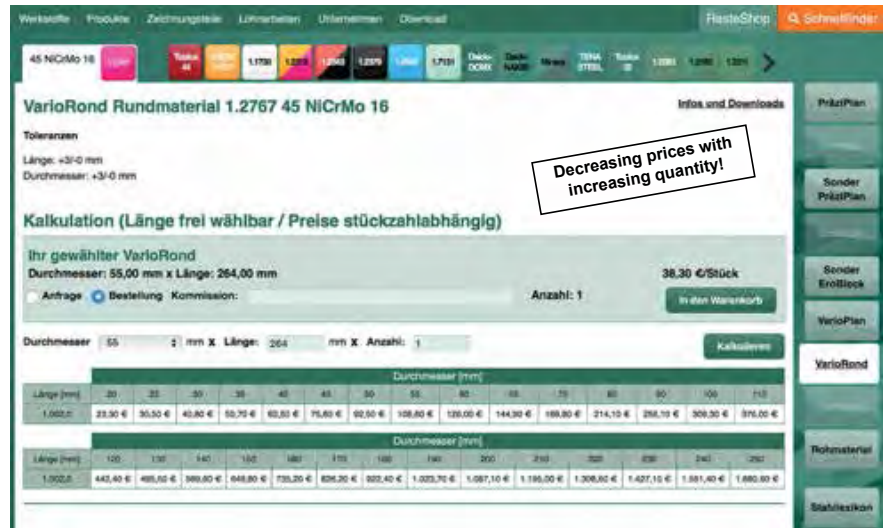
Execution and Tolerances:

Length, sawn: + 3.0 / -0 mm
 Diameter: +3.0 / -0 mm
 Diameter range: 20–250 mm

flexible online-calculation:

www.variorond.de

- Desired length is freely selectable
- Unit prices for your desired length
- Sawing costs included
- No additional surcharges



Round bars, ground

Tolerance:

diameter: h8
 length: +30.0 / -0 mm

length: 1,000 mm price per piece

	diameter [mm]				
	10	12	15	20	25
	10	13	21	42	63

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Raw material

Plates or forged pieces and cuttings thereof, plates rolled according to EN 10029 Class C

	thickness [mm]									
	6.1	9.1	11.3	13.3	17.6	20	25	30	35	40
	45	50	55	60	65	70	80	85	90	100
	110	120	130	140	150	165	175	165	175	205

Select affordable raw materials online, including cuttings

www.ResteShop.de

Fast, clear, and transparent:

Offcut shop and Quick finder at www.stahlnetz.de.



Offcut shop

- All materials
- With cutting service
- Available immediately from stock
- Affordable special prices for remnants
- While supplies last

Quick finder

- All products in comparison
- Your custom parts fully calculated
- Easy selection of the optimal solution

Other dimensions available upon request.

- We cut cuttings according to your specifications.
- Preprocessed as VarioPlan® is available.
- Flat steel bars are available at short notice.
- You can obtain round materials as VarioRond®.

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GEBRÜDER RECKNAGEL  Präzision in Stahl

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chemical composition [%]

	C	Si	Mn	Cr	Mo	Ni
max.	0.5	0.4	0.5	1.5	0.35	4.3
min.	0.4	0.1	0.2	1.2	0.15	3.8

Tool steel for heavily stressed solid forging tools, cold heading tools, cold shear blades, and for the production of plastic molds.

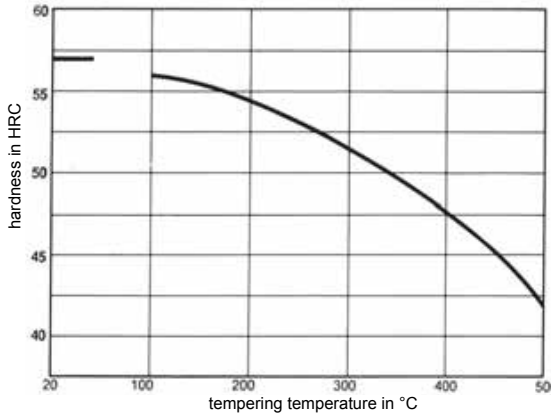
You can also obtain 1.2767 from us according to your specifications as a fully machined drawing part.

You can obtain this material from us as precision flat steel (standard and special dimensions), VarioPlan®, VarioRond®, and as raw material cuttings.

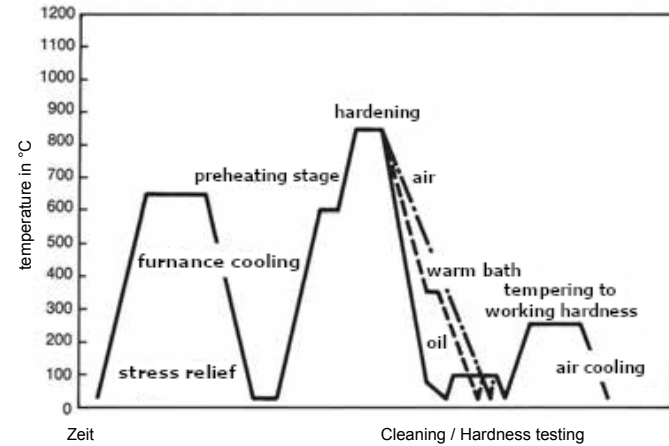
Color coding : Purple

Tempering chart

Hardening temperature: 850°C, sample cross-section: square 20mm.



Heat treatment schedule



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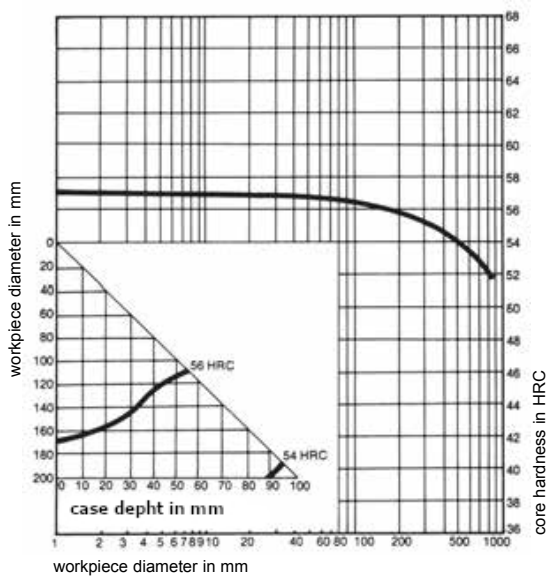
GEBRÜDER RECKNAGEL Präzision in Stahl 247

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chemical composition [%]

	C	Si	Mn	Cr	Mo	Ni
max.	0.5	0.4	0.5	1.5	0.35	4.3
min.	0.4	0.1	0.2	1.2	0.15	3.8

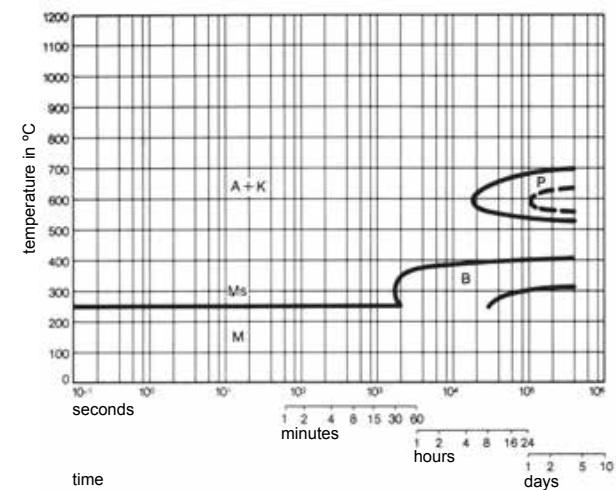
Dependency of core hardness and case depth on the workpiece diameter



hardening temperature: 960°
 C hardening medium:
 Öl

Isothermal Time-Temperature-Transformation (TTT) diagram

austenitization temperature: 840°C, holding time: 15 minutes



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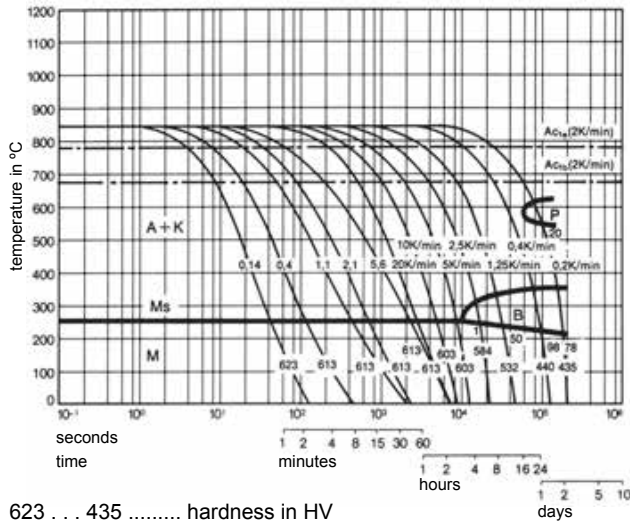
GEBRÜDER RECKNAGEL Präzision in Stahl

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chemical composition [%]

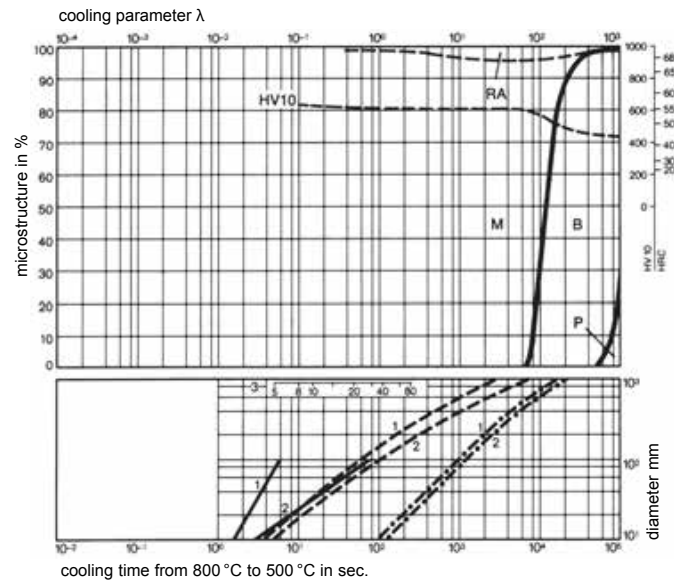
	C	Si	Mn	Cr	Mo	Ni
max.	0.5	0.4	0.5	1.5	0.35	4.3
min.	0.4	0.1	0.2	1.2	0.15	3.8

Continuous cooling transformation (CCT) diagram for continuous cooling austenitization temperature: 840°C, holding time: 15 minutes.



- 623 . . . 435 hardness in HV
- 1 . . . 98 microstructure fractions in %
- 0,14 . . . 5,6 Cooling parameters, meaning cooling time from 800°C to 500°C in sec. $\times 10^{-2}$
- 20 . . . 0,2K/mins ... Cooling rate in K/min in the range of 800°C to 500°C.
- B Bainit

Microstructure diagram



- water cooling
- - - oil cooling
- · - air cooling

1. workpiece edge
2. workpiece center
3. Jominy test:
Distance from the end face

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