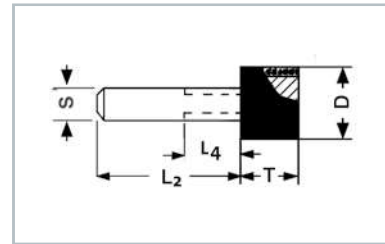


Electroplated grinding pins

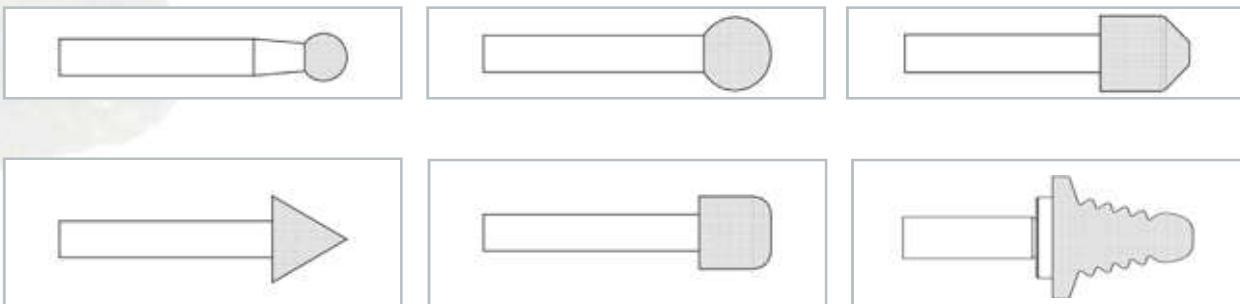
Electroplated grinding pins have three distinct advantages. Various special profiles can be manufactured to customer specifications and small head diameters from 0.4 mm are producible. Furthermore, distinct grain protrusion of diamond and cBN grits ensure high material removal rates. Apart from the extensive stock programme, various profile pins are available at short notice (see profile examples below). Please include the dimensions for D, T, S, S_v, R, V and L₂, when ordering. For spherical pin, the head length 'T' should be specified as '0'. The front face of the head of electroplated grinding pins from 6 mm diameter and above is specially designed to reduce the contact area. Minimum order quantity for manufacture of non-stock items: 5 pieces per item



Grinding pins / Grinding wheels - summary and recommendations for use

Bond type	Electroplated single-layer metal bond	
Abrasive	Diamond	cBN
Bond designation	WINTER S for grinding pins 1A1W and grinding wheels 1A1	WINTER GSS for grinding pins 1A1W and grinding wheels 1A1
Features	High material removal rate, surface roughness according to grit size and wear level, special shapes possible. Dry and wet grinding	High material removal rate, uniform surface roughness after an initial running-in period, special shapes possible. Dry and wet grinding
Application areas	Carbide, hard short-chip materials (e.g. ceramic oxide), pre-sintered carbide. On ID and coordinate grinding machines.	HSS and high-alloyed hardened steel. On ID and coordinate grinding machines.
Recommended use		
Shape (Order Number)	1A1W grinding pins and 1A1 grinding wheels	1A1W grinding pins und 1A1 grinding wheels
Grit size d _k	D46 - D64 - D91 D126 - D181	B46 - B64 - B91 B126 - B151 - B252
Bonds	G820	G825
Concentration	S33	S33
Circumferential speed v _c	...20 m/s wet Please observe n _{perm} ...15 m/s dry	...30 m/s wet Please observe n _{perm} ...20 m/s dry
Table feed rate v _f	0.5...5 m/min	0.5...5 m/min
Workpiece speed rate n _w	100...1000 min ⁻¹	100...1000 min ⁻¹
Feed rate s (= v _f · 10 ³ : n _w)	1 to 5 mm	1 to 5 mm
Infeed a _e	20% of d _k	20% of d _k
Coolant	Dry, emulsion or oil	Dry, emulsion or oil

Examples of common profile pins



ID grinding - electroplated

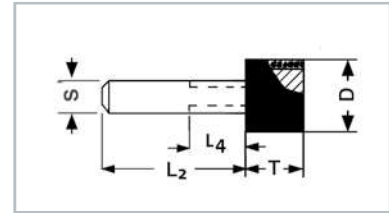
- WINTER Facts
- Shank tools
- Saws
- Inserts
- PCD PCBN
- Knives
- Milling cutters
- Mould and die
- Service Glossary Contact

Important notes when using grinding pins (see also page 124)

1A1W single layer electroplated grinding pins						
Shape	D	T	Clamping length $L_{3 \text{ min}}$	n_{perm} (1/min)	Clamping length $L_{3 \text{ max}}$	n_{perm} (1/min)
StA1W	0.5	2.0	10.0	12,000	33.0	27,000
StA1W	0.6	2.0	10.0	18,000	33.0	41,000
StA1W	0.6	4.0	10.0	18,000	33.0	45,000
StA1W	0.7	2.0	10.0	23,000	33.0	57,000
StA1W	0.7	4.0	10.0	24,000	33.0	62,000
StA1W	0.8	2.0	10.0	24,000	31.0	50,000
StA1W	0.8	4.0	10.0	30,000	31.0	70,000
StA1W	0.9	2.0	10.0	30,000	31.0	66,000
StA1W	0.9	4.0	10.0	30,000	31.0	70,000
StA1W	1.0	2.0	10.0	35,000	31.0	82,000
StA1W	1.0	4.0	10.0	36,000	31.0	88,000
StA1W	1.1	4.0	10.0	42,000	28.0	91,000
StA1W	1.2	4.0	10.0	45,000	28.0	106,000
StA1W	1.3	4.0	10.0	48,000	28.0	120,000
StA1W	1.4	4.0	10.0	50,000	28.0	134,000
StA1W	1.5	4.0	10.0	50,000	28.0	134,000
StA1W	1.6	4.0	10.0	52,000	28.0	147,000
StA1W	1.7	4.0	10.0	53,000	28.0	150,000
StA1W	1.8	4.0	10.0	54,000	28.0	150,000
StA1W	1.9	4.0	10.0	54,000	28.0	150,000
StA1W	2.0	4.0	10.0	57,000	24.0	138,000
StA1W	2.2	4.0	10.0	57,000	24.0	143,000
StA1W	2.4	4.0	10.0	56,000	24.0	145,000
StA1W	2.5	4.0	10.0	56,000	24.0	146,000
StA1W	2.6	4.0	10.0	55,000	24.0	146,000
StA1W	2.8	4.0	10.0	54,000	24.0	145,000
StA1W	3.0	5.0	10.0	55,000	20.0	106,000
StA1W	3.5	5.0	10.0	51,000	20.0	96,000
StA1W	4.0	5.0	10.0	29,000	35.0	132,000
StA1W	4.5	5.0	10.0	28,000	30.0	83,000
StA1W	5.0	7.0	10.0	28,000	40.0	85,000
StA1W	6.0	7.0	10.0	39,000	40.0	150,000
StA1W	7.0	8.0	10.0	39,000	40.0	136,000
StA1W	8.0	10.0	10.0	38,000	40.0	120,000
StA1W	10.0	10.0	10.0	36,000	40.0	96,000
StA1W	12.0	10.0	10.0	33,000	40.0	80,000
StA1W	15.0	10.0	10.0	30,000	40.0	64,000

n_{perm} (rpm) according to clamping length L_3

All dimensions in mm



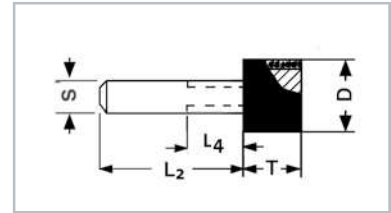
1A1W Stock programme

Diamond grinding pins									
Shape	D	T	S	L ₂	L ₄	Grit size	Bond	Concentration	Order number
S1A1W	0.5	2	3	38	5	D91	G820	S33	60157644111
S1A1W	0.6	4	3	36	3	D91	G820	S33	66260110736
S1A1W	0.7	4	3	36	3	D91	G820	S33	60157644152
S1A1W	0.8	2	3	38	7	D91	G820	S33	60157643877
S1A1W	0.8	4	3	36	5	D91	G820	S33	60157643493
S1A1W	1	4	3	36	5	D91	G820	S33	66260134647
						D126	G820	S33	60157643706
S1A1W	1.2	4	3	36	8	D91	G820	S33	60157643847
						D126	G820	S33	60157643955
S1A1W	1.3	4	3	36	8	D126	G820	S33	60157643988 ¹⁾
S1A1W	1.5	4	3	36	8	D91	G820	S33	66260134656
						D126	G820	S33	60157643944
S1A1W	2	4	3	36	12	D46	G820	S33	60157643916
						D91	G820	S33	66260134665
						D126	G820	S33	66260134666
						D181	G820	S33	60157643806
S1A1W	2.2	4	3	36	12	D91	G820	S33	66260134668
S1A1W	2.5	4	3	36	12	D91	G820	S33	66260134670
						D126	G820	S33	66260134671
S1A1W	3	5	3	35	15	D91	G820	S33	66260134675
						D126	G820	S33	66260134676
						D181	G820	S33	60157643785
S1A1W	3.5	5	3	35		D91	G820	S33	66260134678
						D126	G820	S33	66260134679
S1A1W	4	5	3	45		D91	G820	S33	66260134681
						D126	G820	S33	66260134682
						D181	G820	S33	66260100058
S1A1W	4	6	3	50		D91	G820	S33	66260110226
S1A1W	4.5	5	3	45		D126	G820	S33	60157643674
S1A1W	4.5	6	3	50		D91	G820	S33	66260110137
S1A1W	5	6	3	50		D91	G820	S33	66260100334

¹⁾ Available while stocks last

All dimensions in mm

Please feel free to contact our sales engineers at any time. Contact details can be found on the last page.



1A1W Stock programme

Diamond grinding pins									
Shape	D	T	S	L ₂	L ₄	Grit size	Bond	Concentration	Order number
S1A1W	5	7	3	43		D91	G820	S33	66260134687
						D126	G820	S33	66260134688
						D181	G820	S33	60157644114
S1A1W	6	7	6	53	13	D91	G820	S33	66260134690
						D126	G820	S33	66260134691
						D181	G820	S33	66260134692
S1A1W	6	7	6	75		D91	G820	S33	60157643963
S1A1W	7	8	6	52		D91	G820	S33	66260134693
						D126	G820	S33	66260134694
						D181	G820	S33	60157643771
S1A1W	8	10	6	50		D91	G820	S33	66260134696
						D126	G820	S33	66260134697
						D181	G820	S33	66260134698
S1A1W	8	10	6	75		D91	G820	S33	66260110242
						D181	G820	S33	66260110167
S1A1W	10	10	6	50		D91	G820	S33	66260134699
						D126	G820	S33	66260134700
						D181	G820	S33	66260134701
S1A1W	10	10	6	75		D91	G820	S33	60157644175
						D181	G820	S33	60157644083
S1A1W	12	10	6	50		D91	G820	S33	66260134702
						D126	G820	S33	66260134703
S1A1W	12	10	6	75		D91	G820	S33	60157643803
						D181	G820	S33	60157644091
S1A1W	15	10	6	50		D126	G820	S33	60157643885

WINTER
FactsShank
tools

Saws

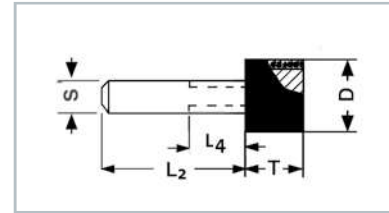
Inserts

PCD
PCBN

Knives

Milling
cuttersMould
and dieService
Glossary
Contact

All dimensions in mm



1A1W Stock programme

cBN grinding pins									
Shape	D	T	S	L ₂	L ₄	Grit size	Bond	Concentration	Order number
S1A1W	0.5	2	3	38	5	B91	G825	S33	66260110140
S1A1W	0.6	2	3	38	5	B91	G825	S33	60157644065
S1A1W	0.6	4	3	36	3	B91	G825	S33	66260134726
S1A1W	0.7	2	3	38	5	B91	G825	S33	60157643505
S1A1W	0.7	4	3	36	3	B91	G825	S33	66260100338
S1A1W	0.8	2	3	38	7	B91	G825	S33	60157643862
S1A1W	0.8	4	3	36	5	B91	G825	S33	66260134734
						B126	G825	S33	60157643870
S1A1W	0.9	4	3	36	5	B126	G825	S33	66260100335
S1A1W	1	2	3	38	7	B91	G825	S33	66260134741
						B126	G825	S33	66260134739
S1A1W	1	4	3	36	5	B91	G825	S33	66260134744
						B126	G825	S33	66260134742
S1A1W	1.2	4	3	36	8	B91	G825	S33	66260134751
						B126	G825	S33	66260134749
S1A1W	1.3	4	3	36	8	B91	G825	S33	66260110421
S1A1W	1.4	4	3	36	8	B126	G825	S33	66260101138
S1A1W	1.5	4	3	36	8	B91	G825	S33	66260134757
						B126	G825	S33	66260134755
S1A1W	1.6	4	3	36	8	B91	G825	S33	66260110135
S1A1W	1.7	4	3	36	8	B126	G825	S33	60157643451
S1A1W	1.8	4	3	36	8	B91	G825	S33	60157643816
						B126	G825	S33	60157643992
S1A1W	2	4	3	36	12	B91	G825	S33	66260133913
						B126	G825	S33	66260133911
						B151	G825	S33	60157644057
S1A1W	2.5	4	3	36	12	B91	G825	S33	66260133920
						B126	G825	S33	66260133919
S1A1W	2.8	4	3	36	12	B91	G825	S33	60157643883
						B126	G825	S33	66260107667
S1A1W	3	5	3	35	15	B91	G825	S33	66260133929
						B126	G825	S33	66260133927
						B151	G825	S33	66260133926

All dimensions in mm

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ID grinding - electroplated

WINTER Facts

Shank tools

Saws

Inserts

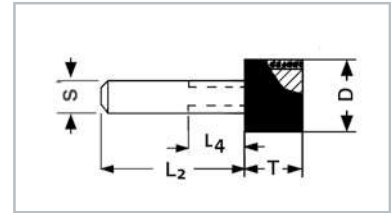
PCD PCBN

Knives

Milling cutters

Mould and die

Service Glossary Contact



1A1W Stock programme

cBN grinding pins									
Shape	D	T	S	L ₂	L ₄	Grit size	Bond	Concentration	Order number
S1A1W	3.5	5	3	35		B91	G825	S33	60157643964
						B126	G825	S33	66260133931
						B151	G825	S33	66260133930
S1A1W	4	5	3	45		B91	G825	S33	66260133937
						B126	G825	S33	66260133935
						B151	G825	S33	60157643772
S1A1W	4.5	5	3	45		B126	G825	S33	66260133939
S1A1W	5	7	3	43		B91	G825	S33	66260133944
						B126	G825	S33	66260100061
						B151	G825	S33	60157643453
S1A1W	6	7	6	53	13	B91	G825	S33	66260133947
						B126	G825	S33	66260133946
						B151	G825	S33	60157643694
S1A1W	6	7	6	68		B252	G825	S33	66260100064
S1A1W	6	7	6	75		B126	G825	S33	60157643703
S1A1W	7	8	6	52		B91	G825	S33	66260133951
						B126	G825	S33	66260133949
						B151	G825	S33	60157643834
S1A1W	8	10	6	50		B91	G825	S33	66260133955
						B126	G825	S33	66260133953
						B151	G825	S33	66260133952
S1A1W	8	10	6	70		B252	G825	S33	60157643793
S1A1W	8	10	6	75		B126	G825	S33	60157643605
S1A1W	10	10	6	50		B91	G825	S33	66260133958
						B126	G825	S33	66260133957
						B151	G825	S33	66260133956
S1A1W	10	10	6	75		B126	G825	S33	60157644046
S1A1W	12	10	6	50		B126	G825	S33	66260133960
						B151	G825	S33	66260133959
S1A1W	12	10	6	75		B126	G825	S33	66260100091
S1A1W	15	10	6	50		B126	G825	S33	60157644004
						B151	G825	S33	60157643797

All dimensions in mm