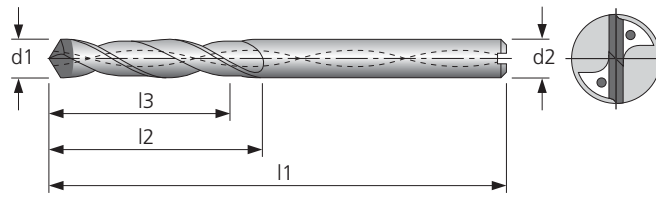


**HAM 3311** Diamant-Vollhartmetall-Spiralbohrer  
diamond solid carbide twist drill

PKD Z 2 25° rechts DIN 338  
 Typ N 120° HA  
 SHRINK FIT



Material	Alu	Alu > 9% Si	Stahl < 800 N/mm <sup>2</sup>	Stahl < 1200 N/mm <sup>2</sup>	Stahl < 1600 N/mm <sup>2</sup>	Stahl < 55 HRC	Stahl < 60 HRC	Stahl < 66 HRC	INOX < 800 N/mm <sup>2</sup>	INOX > 800 N/mm <sup>2</sup>	GG	GGG	hochw. Legierungen	Titan	NE Metalle Cu-Leg.	Graphit Faser-verbund	MMS	max.	ohne	AIR
33-1080	●	●													●	●	●	●		

● sehr gut geeignet/very suitable ○ geeignet/suitable

Werkstoffgruppe Material group	ø	8	10	12	14	16	18	20
Alu	V <sub>c</sub> [m/min]	600	600	600	600	600	600	600
	f [mm/U]	0,250	0,300	0,400	0,450	0,500	0,550	0,600
	v <sub>f</sub> [mm/min]	5980	5730	6360	6120	5950	5830	5700
	n [1/min]	23900	19100	15900	13600	11900	10600	9500
Alu > 9% Si	V <sub>c</sub> [m/min]	400	400	400	400	400	400	400
	f [mm/U]	0,250	0,250	0,300	0,400	0,450	0,500	0,550
	v <sub>f</sub> [mm/min]	3980	3180	3180	3640	3600	3550	3520
	n [1/min]	15900	12700	10600	9100	8000	7100	6400
NE-Metalle Cu-Leg.	V <sub>c</sub> [m/min]	200	200	200	200	200	200	200
	f [mm/U]	0,300	0,400	0,500	0,550	0,600	0,620	0,650
	v <sub>f</sub> [mm/min]	2400	2560	2650	2480	2400	2170	2080
	n [1/min]	8000	6400	5300	4500	4000	3500	3200
Graphit Faserverbund	V <sub>c</sub> [m/min]	140	140	140	140	140	140	140
	f [mm/U]	0,200	0,250	0,300	0,350	0,380	0,450	0,500
	v <sub>f</sub> [mm/min]	1120	1130	1110	1120	1060	1130	1100
	n [1/min]	5600	4500	3700	3200	2800	2500	2200