

VF2XLB5

Ball nose, Medium cut length, 2 flute, Short shank

VF2XLB

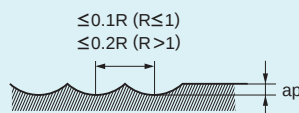
Ball nose, Long cut length, 2 flute, For hardened materials

CARBIDE

RECOMMENDED CUTTING CONDITIONS

Work material		Hardened steel (45—55HRC)			Hardened steel (55—62HRC)		
		X40CrMoV51			X210Cr12		
R (mm)	Neck length (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)	Revolution (min ⁻¹)	Feed rate (mm/min)	Depth of cut ap (mm)
R 0.1	0.5	40000	300	0.003	40000	300	0.002
	1	40000	300	0.002	40000	300	0.002
	1.5	40000	300	0.001	40000	200	0.001
	2	40000	200	0.001	40000	100	0.001
R 0.15	2.5	40000	100	0.001	40000	60	0.001
	1	40000	500	0.007	40000	500	0.005
	1.5	40000	500	0.005	40000	500	0.003
	2	40000	500	0.003	40000	500	0.002
R 0.2	2.5	40000	400	0.003	40000	400	0.002
	3	40000	300	0.002	40000	300	0.001
	4	30000	200	0.002	30000	200	0.001
	5	40000	1400	0.015	40000	1400	0.01
R 0.25	1.5	40000	1000	0.01	40000	1000	0.006
	2	40000	1000	0.01	40000	1000	0.006
	3	40000	1200	0.015	40000	1200	0.01
	4	36000	900	0.01	36000	900	0.007
R 0.3	5	36000	700	0.007	36000	600	0.005
	6	36000	600	0.006	36000	500	0.004
	2	40000	2800	0.03	40000	2800	0.02
	3	40000	2800	0.03	40000	2800	0.02
R 0.4	4	35000	2000	0.02	35000	2000	0.015
	5	30000	1000	0.01	30000	1000	0.007
	6	30000	800	0.008	30000	800	0.005
	7	30000	600	0.008	30000	600	0.005
R 0.5	8	25000	400	0.006	25000	400	0.004
	2	40000	3500	0.04	40000	3500	0.03
	3	40000	3000	0.04	40000	3000	0.03
	4	40000	3000	0.02	40000	3000	0.015
R 0.6	6	30000	1600	0.02	30000	1600	0.01
	8	25000	1000	0.01	25000	1000	0.007
	10	25000	600	0.008	25000	600	0.005
	3	40000	4000	0.05	40000	4000	0.04
R 0.7	4	40000	4000	0.05	40000	4000	0.04
	5	40000	3000	0.03	40000	3000	0.02
	6	35000	2000	0.03	35000	2000	0.02
	8	30000	1600	0.02	30000	1600	0.01
R 0.75	10	20000	1000	0.01	20000	1000	0.01
	12	20000	1000	0.01	18000	800	0.008
	14	18000	600	0.008	18000	480	0.008
	16	18000	500	0.008	18000	400	0.006
R 0.8	18	13000	300	0.005	13000	240	0.004
	20	13000	250	0.005	13000	200	0.004
	6	40000	4000	0.05	35000	3500	0.04
	8	40000	3000	0.05	27000	2000	0.04
R 0.85	10	27000	1900	0.03	24000	1700	0.02
	12	16000	1100	0.02	16000	1000	0.01
	14	16000	850	0.01	16000	780	0.01
	16	15000	500	0.01	14000	400	0.006
R 0.9	8	40000	4500	0.06	28000	3200	0.05
	12	32000	3000	0.03	19000	1800	0.02
	16	15000	1000	0.02	14000	800	0.01
	20	15000	1000	0.02	14000	800	0.01
R 1	25	10000	400	0.004	10000	400	0.004
	30	10000	300	0.003	10000	300	0.003
	35	10000	200	0.002	10000	200	0.002
	40	10000	100	0.001	10000	100	0.001
R 1.25	10	24000	4800	0.2	12000	2200	0.2
	12	24000	4800	0.2	12000	2200	0.2
	14	24000	3800	0.15	12000	1500	0.15
	16	24000	3800	0.15	12000	1500	0.15
R 1.5	20	24000	3800	0.15	12000	1500	0.15
	25	24000	3800	0.15	12000	1500	0.15
	30	20000	3000	0.1	10000	1100	0.08
	35	12000	1700	0.1	8000	900	0.08
R 1.75	40	11000	1500	0.1	5000	500	0.06
	45	10000	1300	0.08	5000	500	0.05
	50	8000	1000	0.05	4000	400	0.04
	20	19000	3400	0.2	10000	1400	0.2
R 2	25	19000	3400	0.2	10000	1400	0.2
	30	19000	3200	0.15	8000	1000	0.15
	35	16000	2700	0.1	8000	900	0.1
	40	16000	2700	0.15	8000	800	0.15
R 2.5	50	16000	2700	0.15	6000	500	0.15
	20	19000	3400	0.2	10000	1400	0.2
	25	19000	3400	0.2	10000	1400	0.2
	30	19000	3200	0.15	8000	1000	0.15
R 3	35	16000	2700	0.1	8000	900	0.1
	40	16000	3000	0.15	8000	800	0.15
	50	16000	2700	0.15	6000	500	0.15
	20	19000	3400	0.2	10000	1400	0.2

Depth of cut



R:Radius

- 1) If the depth of cut is shallow, the revolution and feed rate can be increased.
- 2) Cutting condition may be considerably different due to the overhang (milling depth), depth of cut, and machine tools. Please see the above table as a standard.