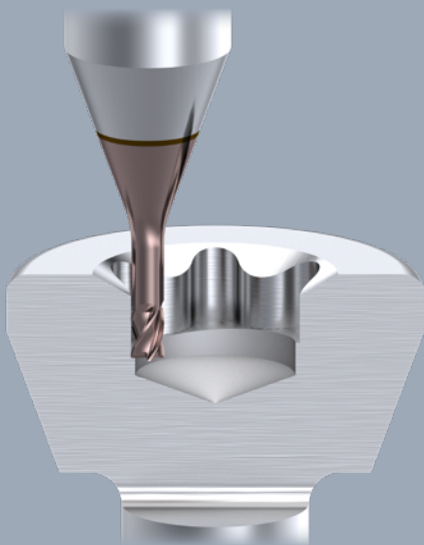


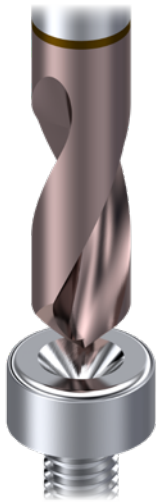
New end mills
DIXI 7340-3.5D
DIXI 7340-5D

In stock
from $\varnothing 0.2\text{ mm}$
to $\varnothing 1\text{ mm}$

The perfect ally for
high-precision
hexalobular socket.

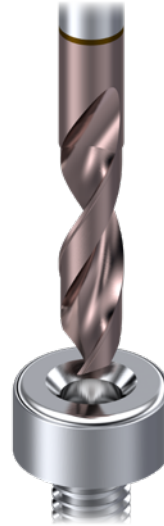


DRILLING A HEXALOBULAR SOCKET



Step 1
Centering and chamfering
Standard tool
DIXI 1105-90°

+



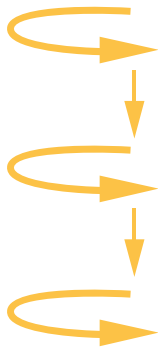
Step 2
Drilling
Standard tool
DIXI 1137

or



Step 1 and 2
Drilling and chamfering
Special tool on request
DIXI 1501

MILLING A HEXALOBULAR SOCKET



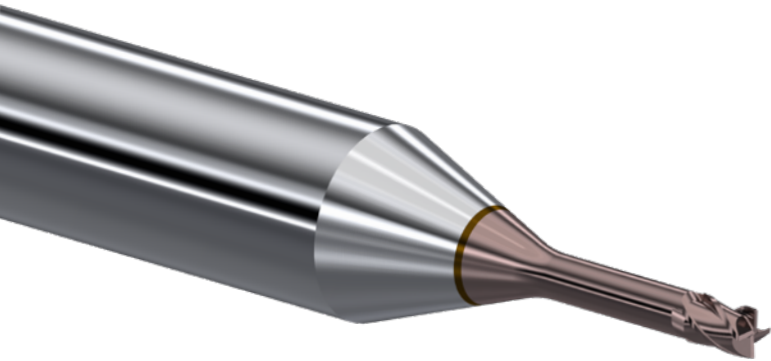
Step 3
Contouring
DIXI 7340-xD



Step 3
Helical interpolation
DIXI 7340-xD

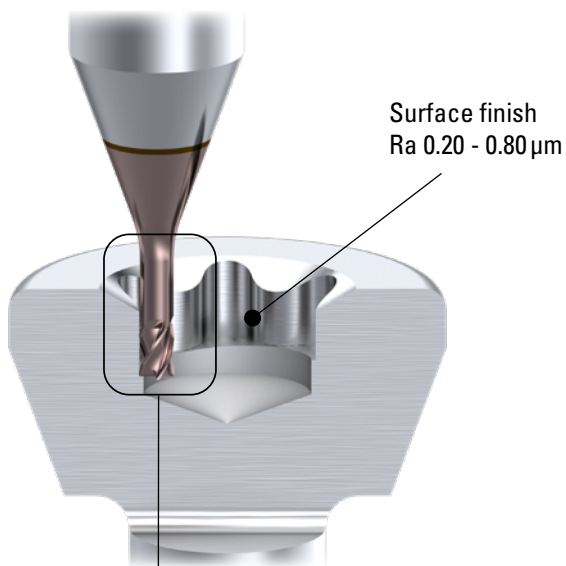
TECHNICAL ADVANTAGES

Helical interpolation milling offers many advantages:

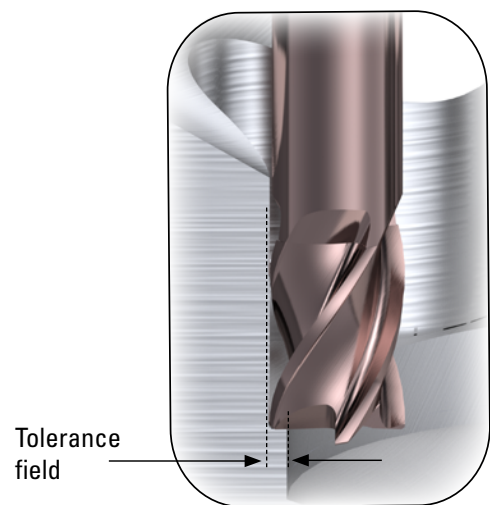


- 1** Improved accuracy of hexalobe profile.
- 2** No vibration when machining the inner radius of the lobes.
- 3** Cycle time reduction.

- 4** Excellent surface quality thanks to constant, evenly distributed forces during interpolation machining.

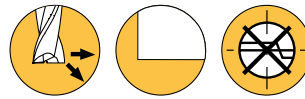


- 5** Optimum profile perpendicularity thanks to minimal cutter deflection.

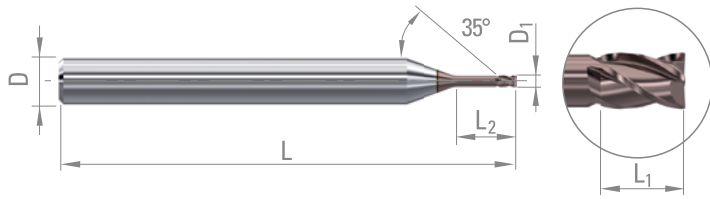


DIXI 7340-xD

Z = 3-4



**HEXALOBE END MILLS
WITH REINFORCED SHANK**



- High performance end mills with reinforced shank, 3.5xD₁ and 5xD₁ necked down, developed to machine hexalobular socket in titanium, stainless steels and CoCr.
- The extra smooth C-TOP coating improves tool life, even at high temperatures, in difficult to machine materials.

Roughing ●●●○○○ Finishing ●●●●●○ ○ good ⊙ excellent

ISO	P													M				K							
Materials description	Unalloyed steel					Low alloyed steel				High alloyed steel		Martensitic stainless steel		Austenitic stainless steel (DUPLEX/PH)				Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	14.4	15	16	17	18	19	20		
Recommendations	○	○	○	○	○	○	○	○	○	○	○	○	○	⊙	⊙	⊙	⊙	○	○	○	○	○	○	○	○

ISO	N													S					H				
Materials description	Wrought aluminium alloy		Cast aluminium alloy			Cu + Pb alloy	Cu alloy difficult		Gold, Silver	Graphite	Plastic	Wood		Special alloy Ni / Co			Titanium, titanium alloy		Hardened steel		Hard cast iron		
VDI 3323	21	22	23	24	25	26	27	28	-	-	29	30	31	32	33-35	36	37	38	39	40	41		
Recommendations	○	○	○	○	○	○	○	○	○				⊙	⊙	⊙	⊙	⊙						

TORX	D _{10/0.1}	L ₁	D ₂	D _{h5}	L	Z	L ₂	DIXI	C-TOP
T4	0.20	0.3	0.19	4	38	3	0.70 1.00	7340-3.5D 7340-5D	444218 444219
T5/T6	0.25	0.4	0.23	4	38	3	0.90 1.25	7340-3.5D 7340-5D	446482 446483
T6 / T7	0.30	0.5	0.28	4	38	3	1.10 1.50	7340-3.5D 7340-5D	444220 444221
T8 / T10	0.40	0.6	0.38	4	38	4	1.40 2.00	7340-3.5D 7340-5D	444222 444223
T10 / T15	0.50	0.8	0.48	4	38	4	1.80 2.50	7340-3.5D 7340-5D	444224 444225
T15/T20	0.60	0.9	0.58	4	38	4	2.10 3.00	7340-3.5D 7340-5D	444226 444227
T20/T25	0.70	1.0	0.68	4	38	4	2.50 3.50	7340-3.5D 7340-5D	444228 444229
T25	0.80	1.2	0.75	4	38	4	2.80 4.00	7340-3.5D 7340-5D	444230 444231
T30	0.90	1.4	0.85	4	38	4	3.20 4.50	7340-3.5D 7340-5D	444232 444233
T30 / T40	1.00	1.5	0.94	4	38	4	3.50 5.00	7340-3.5D 7340-5D	444234 444235

MACHINING EXAMPLE OF A HEXALOBULAR SOCKET WITH INTERNAL LOBE R=0.30

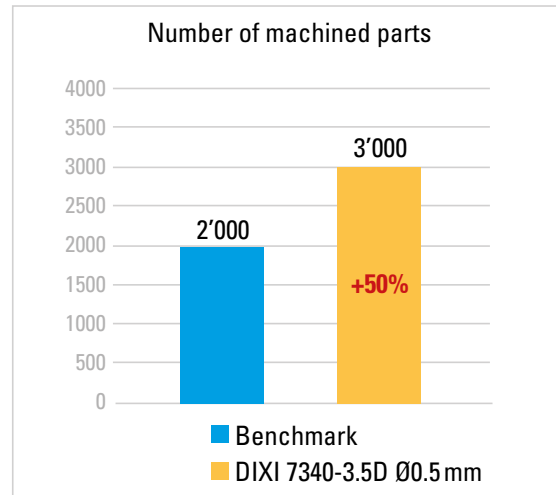
Tool: End mill DIXI 7340-3.5D Ø0.5 ref 444224

n = 50'000 rpm

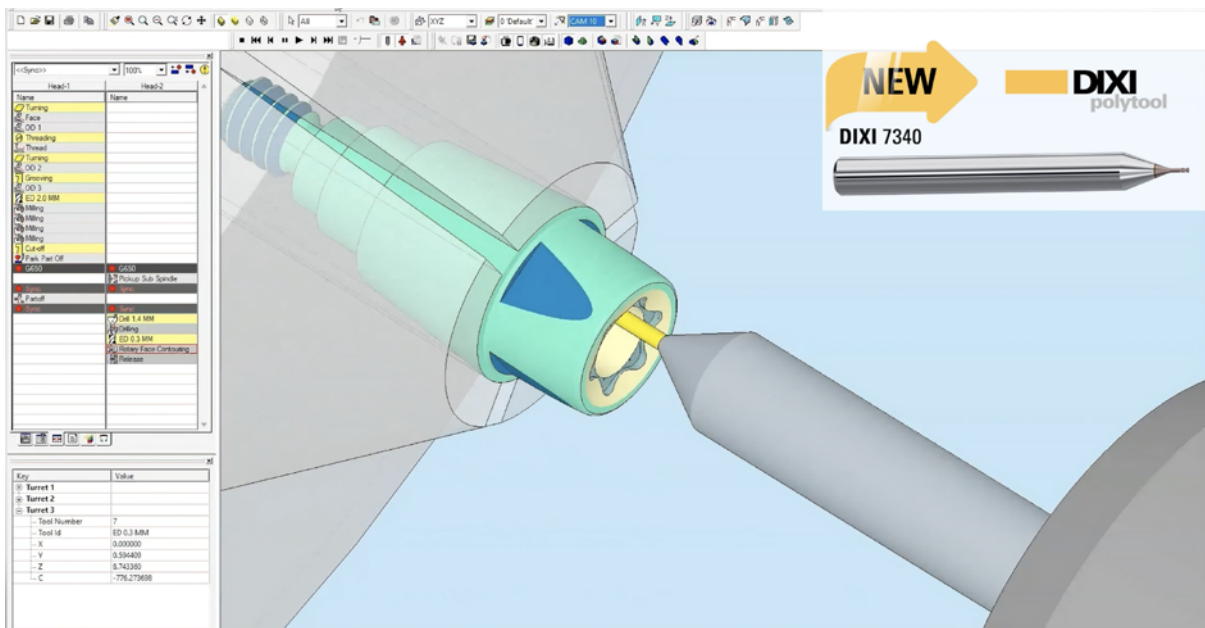
Vf = 350 mm/min

Machining by helical interpolation.

Steps of 0.05 mm per helix.



WATCH THE VIDEO



CUTTING CONDITIONS

HELICAL INTERPOLATION



	VDI 3323	T4 Ø D ₁ = 0.20				T5 Ø D ₁ = 0.25				T6/T7 Ø D ₁ = 0.30				
		P		Vc (m/min)	fz (mm)	P		Vc (m/min)	fz (mm)	P		Vc (m/min)	fz (mm)	
		3.5xD ₁	5xD ₁			3.5xD ₁	5xD ₁			3.5xD ₁	5xD ₁			
M	Austenitic stainless steel < 700 N/mm ²	14.1-14.2	0.2xD ₁	0.15xD ₁	20	0.0015	0.2xD ₁	0.15xD ₁	25	0.0015	0.3xD ₁	0.2xD ₁	30	0.0025
	Nickel-free stainless steel / DUPLEX > 700 N/mm ²	14.3-14.4	0.2xD ₁	0.15xD ₁	20	0.0015	0.2xD ₁	0.15xD ₁	25	0.0015	0.3xD ₁	0.2xD ₁	30	0.0025
S	Refractory alloy, Fe, Ni, Co base	31 - 35	0.2xD ₁	0.15xD ₁	20	0.0010	0.2xD ₁	0.15xD ₁	25	0.0010	0.3xD ₁	0.2xD ₁	30	0.0020
	Titanium, titanium alloy	36 - 37	0.2xD ₁	0.15xD ₁	20	0.0015	0.2xD ₁	0.15xD ₁	25	0.0015	0.3xD ₁	0.2xD ₁	30	0.0025

CONTOURING



	VDI 3323	T4 Ø D ₁ = 0.20				T5 Ø D ₁ = 0.25				T6/T7 Ø D ₁ = 0.30				
		ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	
		M	Austenitic stainless steel < 700 N/mm ²			14.1-14.2	0.1xD ₁			0.5xD ₁	20			0.0018
Nickel-free stainless steel / DUPLEX > 700 N/mm ²	14.3-14.4		0.1xD ₁	0.5xD ₁	20	0.0018	0.1xD ₁	0.5xD ₁	25	0.0018	0.1xD ₁	0.5xD ₁	30	0.0018
S	Refractory alloy, Fe, Ni, Co base	31 - 35	0.1xD ₁	0.5xD ₁	20	0.0012	0.1xD ₁	0.5xD ₁	25	0.0012	0.1xD ₁	0.5xD ₁	30	0.0012
	Titanium, titanium alloy	36 - 37	0.1xD ₁	0.5xD ₁	20	0.0018	0.1xD ₁	0.5xD ₁	25	0.0018	0.1xD ₁	0.5xD ₁	30	0.0018

SPOTTING / CHAMFERING

All materials



	Spotting and chamfering	
	90°	120°
T4	DIXI 1105-Ø2.00	DIXI 1107-Ø2.00
T5	DIXI 1105-Ø2.00	DIXI 1107-Ø2.00
T6	DIXI 1105-Ø3.00	DIXI 1107-Ø3.00
T7	DIXI 1105-Ø3.00	DIXI 1107-Ø3.00
T8	DIXI 1105-Ø3.00	DIXI 1107-Ø3.00
T10	DIXI 1105-Ø4.00	DIXI 1107-Ø4.00
T15	DIXI 1105-Ø4.00	DIXI 1107-Ø4.00
T20	DIXI 1105-Ø5.00	DIXI 1107-Ø5.00
T25	DIXI 1105-Ø5.00	DIXI 1107-Ø5.00
T30	DIXI 1105-Ø6.00	DIXI 1107-Ø6.00
T40	DIXI 1105-Ø6.00	DIXI 1107-Ø6.00

T8/T10 Ø D1 = 0.40				T10/T15 Ø D1 = 0.50				T15/T20 Ø D1 = 0.60				T20 Ø D1 = 0.70				T25/T40 Ø D1 = 0.80/1.00			
P		Vc (m/min)	fz (mm)	P		Vc (m/min)	fz (mm)	P		Vc (m/min)	fz (mm)	P		Vc (m/min)	fz (mm)	P		Vc (m/min)	fz (mm)
3.5xD ₁	5xD ₁			3.5xD ₁	5xD ₁			3.5xD ₁	5xD ₁			3.5xD ₁	5xD ₁			3.5xD ₁	5xD ₁		
0.35xD ₁	0.25xD ₁	30	0.0025	0.4xD ₁	0.3xD ₁	40	0.0025	0.4xD ₁	0.3xD ₁	40	0.0030	0.4xD ₁	0.3xD ₁	40	0.0030	0.50xD ₁	0.40xD ₁	50	0.0040
0.35xD ₁	0.25xD ₁	30	0.0025	0.4xD ₁	0.3xD ₁	40	0.0025	0.4xD ₁	0.3xD ₁	40	0.0030	0.4xD ₁	0.3xD ₁	40	0.0030	0.50xD ₁	0.40xD ₁	50	0.0040
0.35xD ₁	0.25xD ₁	30	0.0020	0.4xD ₁	0.3xD ₁	40	0.0020	0.4xD ₁	0.3xD ₁	40	0.0025	0.4xD ₁	0.3xD ₁	40	0.0025	0.50xD ₁	0.40xD ₁	50	0.0030
0.35xD ₁	0.25xD ₁	30	0.0025	0.4xD ₁	0.3xD ₁	40	0.0025	0.4xD ₁	0.3xD ₁	40	0.0030	0.4xD ₁	0.3xD ₁	40	0.0030	0.50xD ₁	0.40xD ₁	50	0.0040

T8/T10 Ø D1 = 0.40				T10/T15 Ø D1 = 0.50				T15/T20 Ø D1 = 0.60				T20 Ø D1 = 0.70				T25/T40 Ø D1 = 0.80/1.00			
ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	ae (mm)	ap (mm)	Vc (m/min)	fz (mm)	ae (mm)	ap (mm)	Vc (m/min)	fz (mm)
0.2xD ₁	0.5xD ₁			30	0.0030			0.2xD ₁	0.5xD ₁			40	0.0030			0.2xD ₁	0.5xD ₁		
0.2xD ₁	0.5xD ₁	30	0.0030	0.2xD ₁	0.5xD ₁	40	0.0030	0.2xD ₁	0.5xD ₁	40	0.0036	0.3xD ₁	0.5xD ₁	40	0.0036	0.3xD ₁	0.5xD ₁	50	0.0048
0.2xD ₁	0.5xD ₁	30	0.0024	0.2xD ₁	0.5xD ₁	40	0.0024	0.2xD ₁	0.5xD ₁	40	0.0030	0.3xD ₁	0.5xD ₁	40	0.0030	0.3xD ₁	0.5xD ₁	50	0.0036
0.2xD ₁	0.5xD ₁	30	0.0030	0.2xD ₁	0.5xD ₁	40	0.0030	0.2xD ₁	0.5xD ₁	40	0.0036	0.3xD ₁	0.5xD ₁	40	0.0036	0.3xD ₁	0.5xD ₁	50	0.0048

DRILLING

Titanium



Center hole drilling

Ø according to ISO 10664

T4	DIXI 1137 Ø0.90
T5	DIXI 1137 Ø1.00
T6	DIXI 1137 Ø1.20
T7	DIXI 1137 Ø1.40
T8	DIXI 1137 Ø1.60
T10	DIXI 1137 Ø1.90
T15	DIXI 1137 Ø2.30
T20	DIXI 1137 Ø2.70
T25	DIXI 1137 Ø3.10
T30	DIXI 1137 Ø3.80
T40	DIXI 1137 Ø4.70

Chrome Cobalt and Stainless Steels

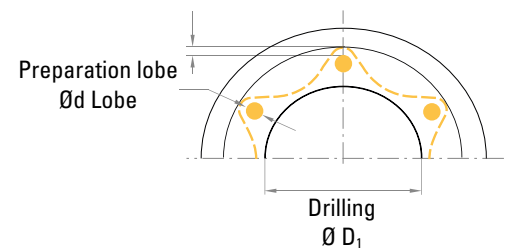


Centre hole drilling

Ø according to ISO 10664

T4	DIXI 1137 Ø0.90
T5	DIXI 1137 Ø0.10
T6	DIXI 1137 Ø1.20
T7	DIXI 1137 Ø1.40
T8	DIXI 1137 Ø1.60
T10	DIXI 1137 Ø1.90
T15	DIXI 1137 Ø2.30
T20	DIXI 1137 Ø2.70
T25	DIXI 1137 Ø3.10
T30	DIXI 1137 Ø3.80
T40	DIXI 1137 Ø4.70

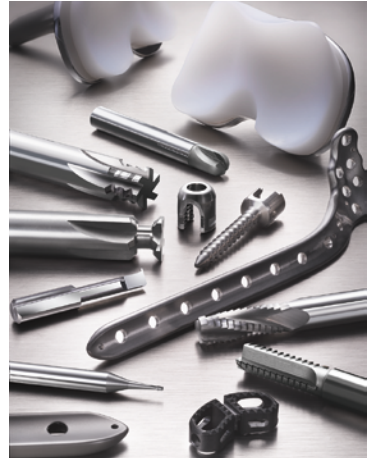
Remaining material



Lobe hole drilling

Ream-all. = 10% x d lobes

T4	DIXI 1137 Ø0.25
T5	DIXI 1137 Ø0.25
T6	DIXI 1137 Ø0.30
T7	DIXI 1137 Ø0.35
T8	DIXI 1137 Ø0.40
T10	DIXI 1137 Ø0.50
T15	DIXI 1137 Ø0.60
T20	DIXI 1137 Ø0.70
T25	DIXI 1137 Ø0.80
T30	DIXI 1137 Ø1.00
T40	DIXI 1137 Ø1.20



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