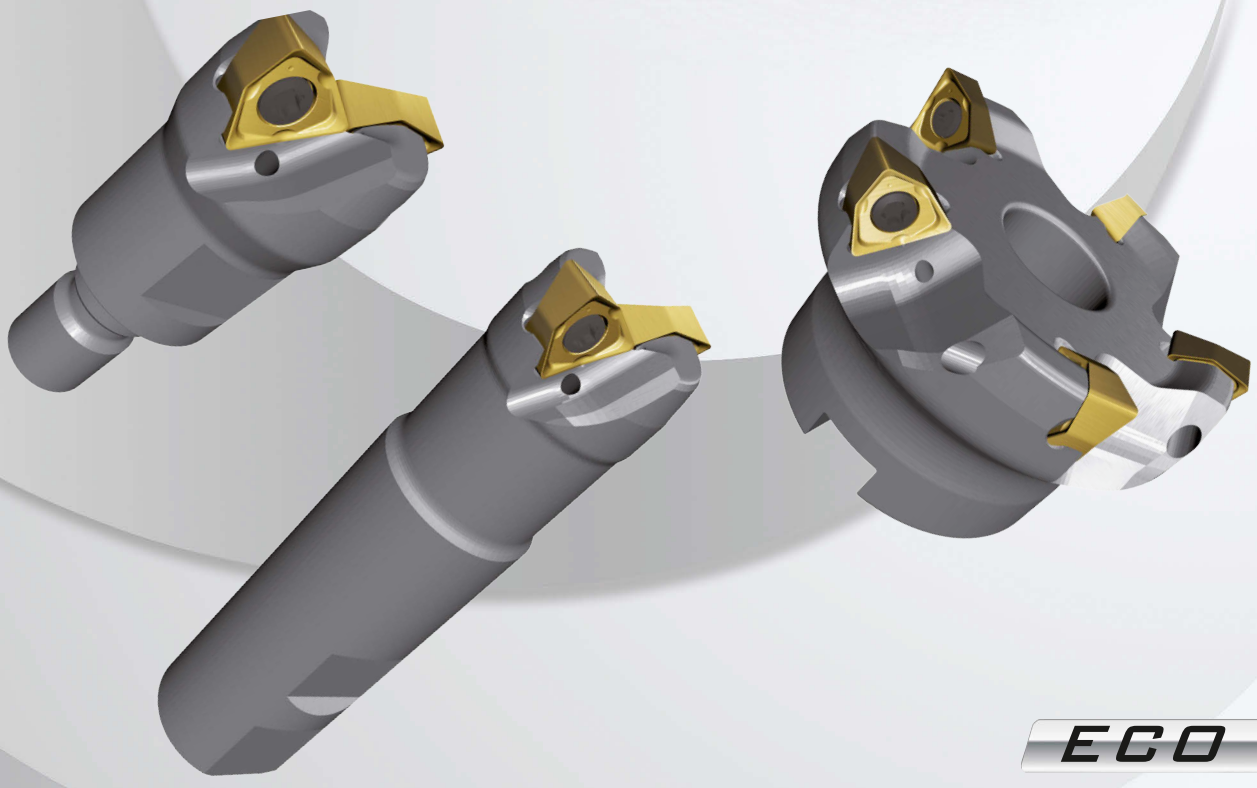
NEW

INNOTOOL

LOOK FORWARD



ECO 6

SQUARE SHOULDER CUTTERS & END MILLS

6-edged insert for great profitability •

End mills and square shoulder cutters Ø25 to Ø125 •

Suitable for ramping and circular interpolation •

No. 121 ITL / 10-2014

>>>NEW PRODUCTS

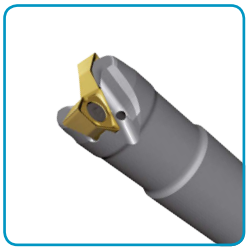
Product Overview

Economic efficiency and productivity are the most important demands for a state-of-the-art tooling system.

The new **Eco6** strikingly meets these requirements:
First there is the **6-edged precision-sintered insert** which reduces the cost-per-edge. Additionally the ability to use impressive feeds-per-tooth as well as ramping and circular interpolation convinces also in technical respects.

Eco6 square shoulder cutters come with adaptions acc. to DIN 8030 in a diameter range of 40 to 125 mm. Tools in fine and coarse pitch allow for requirement-specific use.

End mills in a diameter range of 25 to 40 mm with Weldon and TopOn adaption are also part of the Ingersoll standard offering.



Insert

The **DiPosEco** insert **WNMU060608N** is capable for cutting depths up to 5.8 mm and creates a 90deg. shoulder.

Advantages

- **6-edged insert for great profitability**
- **Feed per tooth up to 0.35 mm**
- **End mills and square shoulder cutters Ø25 to Ø125**
- **Suitable for ramping and circular interpolation**

Tips & Parameters

insert:	WNMU0606_R
average chip thickness:	hm = 0.13 mm
max. cutting depth:	ap = 5.8 mm

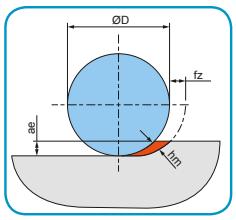
Recommended cutting data:

material	cutting speed Vc [m/min]				feed per tooth fz [mm]
	1st choice dry machining resp. wear resistant carbide		1st choice wet machining resp. tough carbide		
unalloyed steel	IN2505	250-290	IN2530	200-240	0.13-0.25
alloyed steel 800 N/mm²	IN2505	210-250	IN2530	160-200	0.13-0.20
alloyed steel 1100 N/mm²	IN2505	160-180	IN2530	110-130	0.13
stainless steel	IN2505	120-180	IN2530	80-130	0.13-0.25
gray cast iron	IN2505	180-250	IN2530	150-200	0.13-0.25
nodular cast iron	IN2505	140-210	IN2530	110-160	0.13-0.20
aluminum	IN2505	800-1500	IN2530	500-800	0.13-0.35
high temperature alloys	IN2505	110-125	IN2530	60-80	0.13
titanium alloys	IN2505	40-50	IN2530	30-40	0.13
hard machining < 54 HRC	IN2505	30-40	-	-	0.13
hard machining < 63 HRC	-	-	-	-	-

Tips

- The worse the material machinability, the smaller the tool engagement should be chosen.
- The smaller the cutting tool diameter, the higher the cutting speed can be.
- If tool engagement is less than 1/3 of cutting tool diameter, the feed per tooth should be calculated with the following formula:

$$fz = hm \times \sqrt{\frac{D}{ae}}$$



Ramping data and circular interpolation:

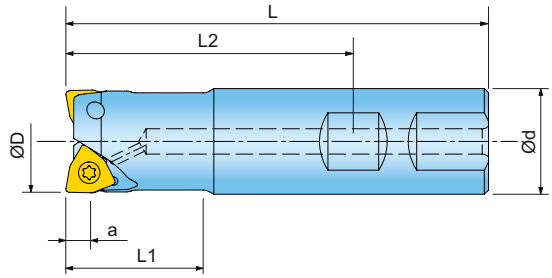
tool diameter [mm]	max. ramping angle [°]	min. bore dia. [mm]	max. ap/rev. [mm]	max. bore dia. even ground [mm]	max. ap/rev. [mm]
25	2.9	38.2	2.1	48	3.7
32	2.2	51.4	2.3	62	3.7
40	1.8	67.0	2.7	78	3.8
50	1.7	86.0	3.4	98	4.5
63	2.6	108.0	5.8	124	5.8
80	2.9	138.5	5.8	158	5.8
100	2.2	178.5	5.8	198	5.8
125	1.3	231.1	5.8	248	5.8

General information:

insert screw: **SM35-088-60**
torque: **3.0 Nm**
torque wrench: **DTN030S with bit DS-T10TB**

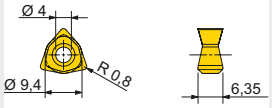
Successful machining results depend on many factors, so cutting data recommendations can only be a rough guideline. Therefore in any case of doubt do not hesitate to contact your Innotool partner.

ADAPTION ACC. TO DIN 1835 B (WELDON)



Designation	D	d	L	L1	L2	a	Z		IK	kg
SW.025.001	25	25	100	30	68	5,8	2	2,9°	✓	0,32
SW.032.001	32	32	110	40	74	5,8	3	2,2°	✓	0,58
SW.040.001	40	32	115	40	79	5,8	4	1,8°	✓	0,66

WNMU060608N



Designation	fz(min/max)	Design	Grade	IN2505	IN2530						
WNMU060608N	0,13/0,35	positive geometry R0,8									

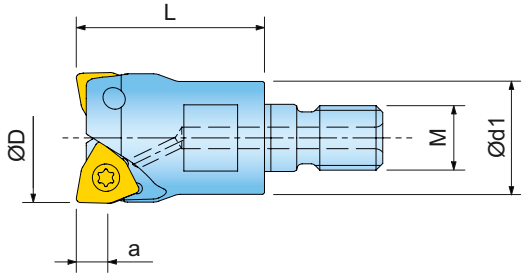
● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

SM35-088-60 (3,0Nm) DS-T10S

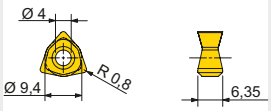
① = Insert screw ② = Screw driver

SCREW-IN TYPE ADAPTION



Designation	D	d1	L	a	M	Z		IK	kg
SW.025.002	25	21	35	5,8	12	2	2,9°	✓	0,10
SW.032.002	32	29	43	5,8	16	3	2,2°	✓	0,21
SW.040.002	40	29	43	5,8	16	4	1,8°	✓	0,25

WNMU060608N



Designation	fz(min/max)	Design	Grade	IN2505	IN2530
WNMU060608N	0,13/0,35	positive geometry R0,8			

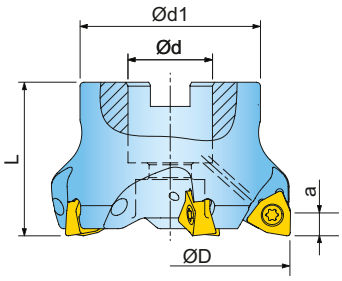
● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

SM35-088-60 (3,0Nm) DS-T10S

① = Insert screw ② = Screw driver

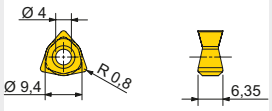
ADAPTION ACC. TO DIN 8030



Designation	D	d	d1	L	a	Z		IK	kg
EW.040.002[1)]	40	16	38	40	5,8	4	1,8°	✓	0,22
EW.050.003	50	22	45	40	5,8	4	1,7°	✓	0,32
EW.050.004[1)]	50	22	45	40	5,8	6	1,7°	✓	0,31
EW.063.003	63	22	47	40	5,8	5	2,6°	✓	0,45
EW.063.004[1)]	63	22	47	40	5,8	7	2,6°	✓	0,46
EW.080.003	80	27	58	50	5,8	7	2,9°	✓	0,94
EW.080.004[1)]	80	27	58	50	5,8	9	2,9°	✓	0,94
EW.100.003	100	32	85	50	5,8	8	2,2°	✓	1,80
EW.100.004[1)]	100	32	85	50	5,8	11	2,2°	✓	1,80
EW.125.003	125	40	85	63	5,8	10	1,3°	✓	2,87
EW.125.004[1)]	125	40	85	63	5,8	14	1,3°	✓	2,87

[1)] Narrow spacing (only for short chip producing materials)

WNMU060608N



Designation	fz(min/max)	Design	Grade	IN2505	IN2530						
WNMU060608N	0,13/0,35	positive geometry R0,8									

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

SM35-088-60 (3,0Nm) DS-T10S

① = Insert screw ② = Screw driver

NOTES

INNOTOOL

INNOVATIVE CUTTING TOOLS
Florianstraße 13–17
71665 Vaihingen-Horrheim, Germany
Telefon: +49 (0)7042-8316-0
Telefax: +49 (0)7042-8316-26
E-Mail: info@innotool.de

www.innotool.de

Order-No.:5876976 • printed version 10/14