

Innovation



Single-sided ISO inserts

Chip into the next machining level!



EN



Application – customer benefits

Industries

- Bearing industry
- Heavy machining
- General mechanical engineering
- Wind power
- Metal production
- Railway industry

Materials

- Steel in general
- Stainless steels
- Cast iron

Typical components

- Bearings
- Axles and shafts
- Rings
- Large and medium components
- Gasket faces



Product advantages

YOUR benefits

High feed rates



Reduced machining time
Increased productivity

Stable cutting edges



Process security even in the case
of severely interrupted cut

Swarf control



Good chip evacuation
Less volume required for swarf

Ideal combination of cutting
material and chip groove



Maximum tool life
Wide range of applications

Masterfinish
(with CNMM 190624...-R58/
-R88)



Enhanced surface finish
Reduced machining time





The geometries

-R28

- For when swarf control is a problem
- For intermittent cutting action and varying depth of cut
- For materials with low tensile strength



-R58

- Universal geometry** for virtually all materials
- For interrupted cuts
- Suitable for unstable conditions thanks to the low cutting forces



-R88

- For large depths of cut and high feed rates
- High process security even on irregular forging and cast skin
- Particularly suitable for severely interrupted cuts



The grades

- Extraordinary heat resistance
- High toughness
- Excellent resistance to notching
- CVD high-performance coating with maximum hardness and extremely smooth surface
- Very good suitability for dry machining

CTCP115



- Steel in general
- Cast iron
- Ferritic/martensitic stainless materials

CTCP125



- Steel in general
- Stainless steels
- Spheroidal cast iron (GGG)



Application examples

Copy machining, boring

of the ball bearing raceways

Large bearing, Ø 2700 mm

-R28

Customer requirement:

- Swarf control
- Tool life

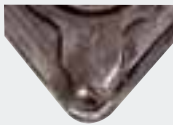
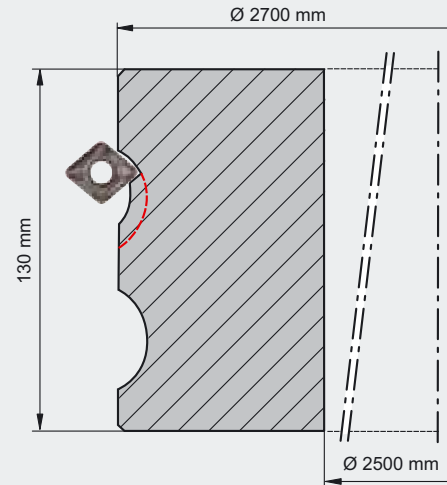
Applied insert:

CERATIZIT
 CNMM 190624EN-R28 CTCP125
 Tool life: 7 rings

Competitor
 CNMM 190624...
 Tool life: 4 – 5 rings



-R28

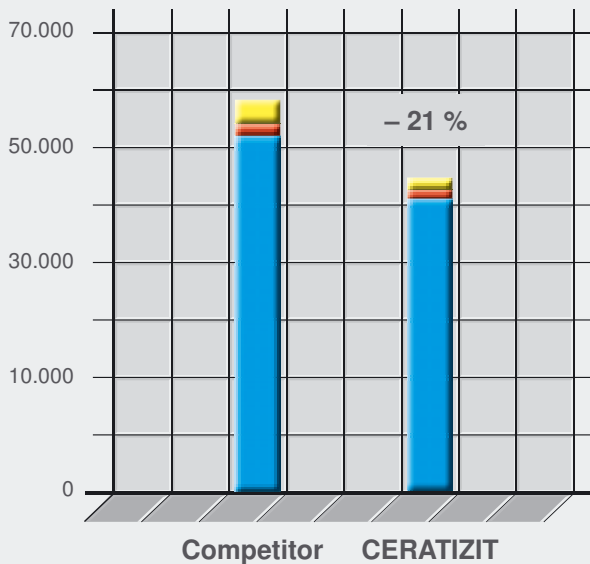


Cutting data:

CERATIZIT
 $v_c = 90 \text{ m/min}$
 $a_p = \text{up to } 6 \text{ mm}$
 $f = 0.84 \text{ mm/rev}$

Competitor
 $v_c = 90 \text{ m/min}$
 $a_p = \text{up to } 6 \text{ mm}$
 $f = 0.7 \text{ mm/rev}$

Coolant: emulsion
 Material: 42 CrMo 4 V



- Cost of cutting edge change per batch
- Cost of cutting material per batch
- Machine cost per batch

Maximum customer benefit:

- Excellent swarf control
- Increased productivity → cost saving

Extra machine capacity:

- 132 hrs/year \triangle 66 rings/year

Face and longitudinal turning

Large bearing, Ø 2400 mm

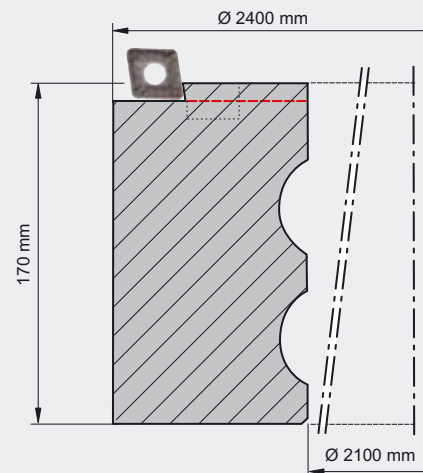
-R58

Customer requirement:

- Swarf control
- Tool life (mandrel)



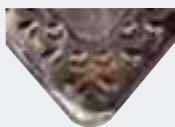
-R58



Applied insert:

CERATIZIT
CNMG 190624EN-R58 CTCP125
Tool life: 4 rings

Competitor
CNMM 190624...
Tool life: 2 – 3 rings

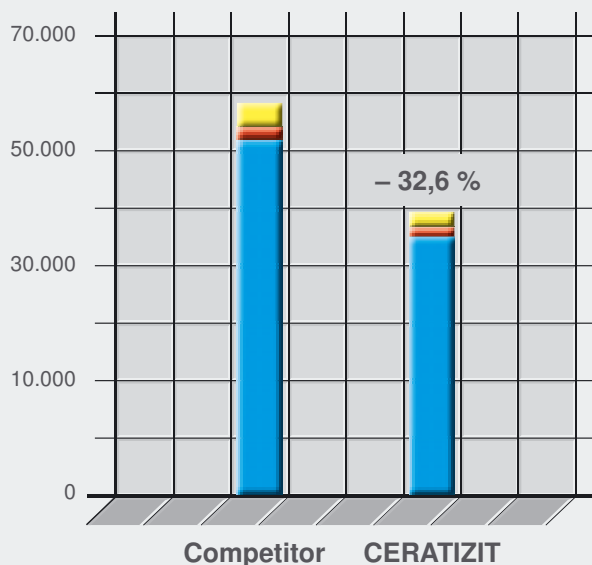


Cutting data:

CERATIZIT
 $v_c = 120$ m/min
 $a_p =$ up to 7 mm
 $f = 0.84$ mm/rev

Competitor
 $v_c = 100$ m/min
 $a_p =$ up to 7 mm
 $f = 0.7$ mm/rev

Coolant: emulsion
Material: 42 CrMo 4 V



- Cost of cutting edge change per batch
- Cost of cutting material per batch
- Machine cost per batch

Maximum customer benefit:

- Increased productivity → cost saving
- Time saving

Extra machine capacity:

- 220 hrs/year \triangleq 110 rings/year



Application examples

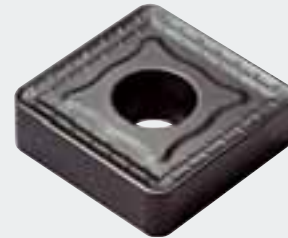
Longitudinal turning

Gasket face, Ø 1640 mm

-R88

Customer requirement:

- Swarf control
- Tool life
- Reduce machining time



-R88

Applied insert:

CERATIZIT
SNMM 250932SN-R88 CTCP125
Tool life: 43 min

Competitor
SNMM 250924SN...
Tool life: 35 min



Cutting data:

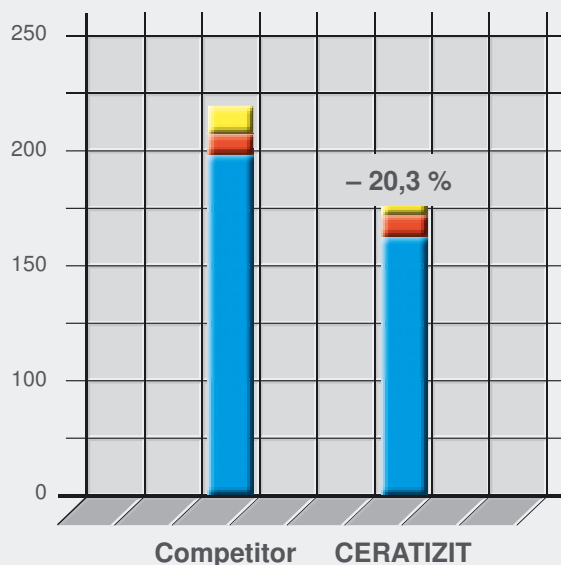
CERATIZIT
 $v_c = 50$ m/min
 $a_p = 15$ mm
 $f = 1.35$ mm/rev

Competitor
 $v_c = 50$ m/min
 $a_p = 15$ mm
 $f = 1.1$ mm/rev

Coolant: dry
Material: X5CrNi 13.4 (1.4313)

Maximum customer benefit:

- Improved tool life
- Increased productivity → cost saving



- Cost of cutting edge change per batch
- Cost of cutting material per batch
- Machine cost per batch



-R28



-R58

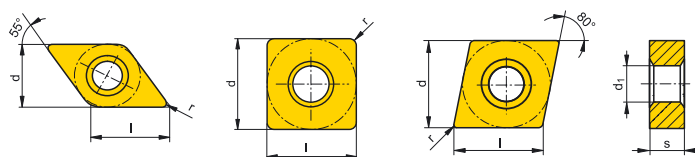


-R88

r [mm]	Type, description	L N R	CTCP125	CTCP115	l [mm]	d [mm]	s [mm]	d ₁ [mm]
0,80	CNMM 120408EN-R28		●	●				
1,20	CNMM 120412EN-R28		●	●	12,90	12,70	4,76	5,16
	CNMM 120412EN-R58		●	●				
1,60	CNMM 120416EN-R28		●	●				
	CNMM 120416EN-R58		●	●				
1,20	CNMM 160612EN-R28		●	●	16,10	15,88	6,35	6,35
	CNMM 160612EN-R58		●	●				
1,60	CNMM 160616EN-R28		●	●				
	CNMM 160616EN-R58		●	●				
1,20	CNMM 190612EN-R28		●	●	19,30	19,05	6,35	7,94
	CNMM 190612EN-R58		●	●				
1,60	CNMM 190616EN-R28		●	●				
	CNMM 190616EN-R58		●	●				
2,40	CNMM 190624EN-R28		●	●	19,30	19,05	6,35	7,94
	CNMM 190624EN-R58		●	●				
3,20	CNMM 190624EN-R58Q		●	●	25,80	25,40	9,52	9,12
	CNMM 190624SN-R88		●	●				
1,20	CNMM 190624SN-R88Q		●	●	32,24	31,75		
	CNMM 250924EN-R58		●	●				
1,60	CNMM 250924SN-R88		●	●				
	CNMT 320932SN-R88	N	●	●				
1,20	DNMM 150612EN-R28		●	●	15,50	12,70	6,35	5,16
	DNMM 150612EN-R58		●	●				
1,60	DNMM 150616EN-R28		●	●				
	DNMM 150616EN-R58		●	●				
1,20	SNMM 150612EN-R28		●	●	15,88	15,88	6,35	6,35
	SNMM 150612EN-R58		●	●				
1,60	SNMM 150616EN-R28		●	●				
	SNMM 150616EN-R58		●	●				
1,20	SNMM 190612EN-R58		●	●	19,05	19,05	6,35	7,94
	SNMM 190616EN-R58		●	●				
1,60	SNMM 190616SN-R88		●	●				
	SNMM 190624EN-R58		●	●				
2,40	SNMM 190624SN-R88		●	●	25,40	25,40	7,94	9,12
	SNMM 250724EN-R58		●	●			9,52	
3,20	SNMM 250724SN-R88		●	●	31,75	31,75	7,94	
	SNMM 250924EN-R58		●	●			9,52	
1,20	SNMM 250924SN-R88		●	●				
	SNMM 250732SN-R88		●	●				
1,60	SNMM 250932SN-R88		●	●				
	SNMM 310932SN-R88		●	●				
2,40	SNMM 310932SN-R88		●	●				
	SNMT 310932SN-R88		●	●				



Steel	●	●
Stainless	○	○
Cast iron	●	●
Non ferrous metals	○	○
Heat resistant	○	○
Hard materials	○	○



- Main application
- Extended application
- International CERATIZIT range, for present availability see price list

Ordering example: 10 pieces CNMM 120408EN-R28 CTCP125



For further details please see our catalogue 'HyperCoat CTCP115/CTCP125' No. 504

CERATIZIT worldwide



- CERATIZIT worldwide production sites and support centres
- CERATIZIT worldwide distribution partner network



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