

3 FLUTE MACHINING COUNTERSINKS - 90°







3

Flutes



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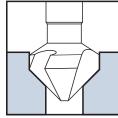












COUNTERSINKING

d1

90°

Tolerances

D

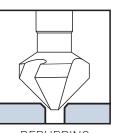
z9

Angle

-1°

d1

max



d2

ł

L

±1mm

DEBURRING

d2

h9

NogaMT 3 flute machining countersinks are designed to perform a variety of jobs including: deburring and countersinking.

NogaMT 3 flute machining countersinks are superior to the traditional multi-flute milling cutters, the wide flutes provide good chip evacuation.

ADVANTAGES

- Open groove geometry allows for greater chip evacuation
- High Positive Cut
- Accurate self centering countersink
- Almost eliminates vibration
- Faster cutting process
- Longer service life

NOGAMT COUNTERSINKS RECOMMENDED APPLICATIONS

| MATERIAL | Steel < = 500 N / mm2 | Steel 500 - 800 N / mm2 | Steel 800 - 1000 N / mm2 | Steel 1000 - 1300 N / mm2 | Abrasive Tough Steel | Hard Bronze | Treated Steel >=60HRC | Aluminum | Cast Aluminum |
|-----------------|------------------------------|-------------------------------|--------------------------------|---------------------------------|-------------------------|-------------|-----------------------------|----------|------------------|
| HSS | | | | × | × | X | × | | |
| HSS TiN | | | | | × | × | × | | |
| HSS - E | | | | | × | × | × | | |
| HSS - E TiAlN | | | | | × | × | × | | |
| Carbide | | | | | | | × | | |
| Carbide - AlTiN | | | | | | | | | |

First choice





HIGH SPEED STEEL

PROPERTIES

HSS - Achieves the best performance in mild steel and nonferrous materials considerably less feed force required. Extremely quiet running, optimal and smooth surface, perfect chip removal.

HSSE (Cobalt) - Provides better wear resistance in hardness and toughness compared to HSS. Longer service life and faster deburring / countersinking.

TiN coating increases the tool life for intensive use.

 $\ensuremath{\text{TiAlN}}$ increases wear resistance and improves surface finish.





HSSE with TiAlN coating

| D | d1 - max | d2 | L | ordering no. HSS | ordering no. HSSE-Cobalt | ordering no. HSS TiN Coated | ordering no. TiAlN Coated |
|-------|----------|------|----|---------------------|-----------------------------|--------------------------------|------------------------------|
| 5.3 | 1.5 | 4 | 40 | CM1103 | CM1204 | CM1304 | CM1404 |
| 6.3 | 1.5 | 5 | 45 | CM1106 | CM1209 | CM1309 | CM1409 |
| 6.35 | 1.5 | 6.35 | 45 | - | CM1210 | - | CM1411 |
| 7.93 | 2.0 | 6.35 | 45 | - | CM1214 | - | CM1414 |
| 8.3 | 2.0 | 6 | 50 | CM1110 | CM1216 | CM1316 | CM1416 |
| 9.52 | 2.5 | 6.35 | 50 | - | CM1219 | - | CM1419 |
| 10.4 | 2.5 | 6 | 50 | CM1113 | CM1221 | CM1321 | CM1421 |
| 12.4 | 2.8 | 8 | 56 | CM1115 | CM1225 | CM1324 | CM1424 |
| 12.7 | 2.9 | 6.35 | 50 | - | CM1227 | - | CM1425 |
| 15 | 3.2 | 10 | 60 | CM1118 | CM1230 | CM1328 | CM1428 |
| 15.87 | 3.2 | 9.52 | 60 | - | CM1232 | - | CM1430 |
| 16.5 | 3.2 | 10 | 60 | CM1120 | CM1233 | CM1331 | CM1431 |
| 19.05 | 3.5 | 9.52 | 60 | - | CM1237 | - | CM1434 |
| 20.5 | 3.5 | 10 | 63 | CM1124 | CM1238 | CM1335 | CM1435 |
| 25 | 3.8 | 10 | 67 | CM1128 | CM1241 | CM1337 | CM1437 |
| 25.4 | 3.8 | 9.52 | 70 | - | CM1243 | - | CM1438 |
| 31 | 4.2 | 12 | 71 | CM11134 | CM1249 | CM1344 | CM1442 |

Lubrication is recommended while working.

All measurements are in mm unless otherwise mentioned.

SOLID CARBIDE

PROPERTIES

NogaMT 3 Flute Carbide machining countersinks are made from Solid Crabide for extra strength, the TiAlN coating gives a high thermic stability and excellent protection against heat and wear. Ideal for dry machining high speed cut - in treated steels and dies up to 67 Rc.





coating

ordering no. Solid Carbide ordering no. AlTiN Coated D 6.3 1.5 5 45 CM1504 CM1604 8.3 2.0 50 6 CM1606 CM1506 10.4 2.5 50 6 CM1508 CM1608 12.4 2.8 8 56 *CM1510 *CM1610 3.2 10 16.5 60 *CM1612 *CM1512 20.5 3.5 10 63 *CM1513 *CM1613 25 3.8 10 67 *CM1514 *CM1614

* 3 flatted shank

Lubrication is recommended while working.

All measurements are in mm unless otherwise mentioned.

HSS Countersink Sets



Solid Carbide Countersink Sets



- .5 mm / 25 mm .5 mm .5 mm / 25 mm .5 mm / 10.4 mm .5 m
 - 2 NogaMT Solid Carbide AlTiN Coated Set CM2600 Contains 3 pieces Diameters: 6.3 mm / 10.4 mm / 16.5 mm
- NogaMT HSS Set CM2100 Contains 5 pieces Diameters: 6.3 mm / 10.4 mm / 16.5 mm / 20.5 mm / 25 mm
- 2 NogaMT HSS-E Set CM2200 Contains 5 pieces Diameters: 6.3 mm / 10.4 mm / 16.5 mm / 20.5 mm / 25 mm
- NogaMT HSS TiN Set CM2300 Contains 5 pieces Diameters: 6.3 mm / 10.4 mm / 16.5 mm / 20.5 mm / 25 mm

A NogaMT HSS TIALN Coated Set - CM2400 Contains 5 pieces Diameters: 6.3 mm / 10.4 mm / 16.5 mm / 20.5 mm / 25 mm





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