

FRAISE-HÉMISPHERIQUE Z4 · BALL-NOSE-ENDMILL Z4 · HALBRUND-FRÄSER Z4



21402-12

Version 21.06.2026

SWISS MADE

| | | | | | |
|--|--|---------------------------------|--------------------------------------|---|----------------------------------|
| E2 E2 HIGH PRECISION TOOL MATERIAL | $\lambda=35^{\circ}\text{-}38^{\circ}$ $\gamma=10^{\circ}$ CUTTING ANGLES $\lambda=35^{\circ}\text{-}38^{\circ}$ $\gamma=10^{\circ}$ | HEMISPHERICAL U-GROOVE TOOL | DUAL DIRECTION HELICAL DRILL BIT | l_1 2.2xD 2.2xD DEPTH FOR TOOLS | STANDARD TOOL WEAR INDICATOR |
|--|--|---------------------------------|--------------------------------------|---|----------------------------------|

MATERIAL COMPATIBILITY

●●● Excellent (3/3) ●●○ Good (2/3) ●○○ Possible (1/3) ○○○ Not recommended

| MATERIAL | SPECIFICATION | GRP | 21402-12 |
|---|------------------------------|-----|----------|
| Alloyed and non-alloyed steels Non-alloyed steels | Rm < 450 N/mm ² | 1a | ●○○ |
| | Rm 450–700 N/mm ² | 1b | ○○○ |
| | Rm 700–900 N/mm ² | 1c | ○○○ |
| | Rm > 1200 N/mm ² | 1d | ○○○ |
| Stainless steels Stainless steels | Rm < 650 N/mm ² | 2a | ○○○ |
| | Rm 650–950 N/mm ² | 2b | ○○○ |
| | Rm > 950 N/mm ² | 2c | ○○○ |
| Hardened steels Hardened steels | 44–56 HRC | 3a | ○○○ |
| | 57–67 HRC | 3b | ○○○ |
| Exotic materials Special alloys | < 32 HRC | 4a | ○○○ |
| | > 32 HRC | 4b | ○○○ |
| Graphite Industrial graphite | | 5 | ●○○ |
| Cast iron Grey / nodular cast iron | < 32 HRC | 6a | ○○○ |
| | > 32 HRC | 6b | ○○○ |
| Titanium Titanium alloys | Rm < 600 N/mm ² | 7a | ●○○ |
| | 600 < Rm N/mm ² | 7b | ●○○ |
| Nickel alloys Inconel, Hastelloy | Rm < 1000 N/mm ² | 8a | ○○○ |
| | Rm > 1000 N/mm ² | 8b | ○○○ |
| Copper, brass, bronze Copper-based | Rm < 850 N/mm ² | 9a | ●●● |
| | Rm > 850 N/mm ² | 9b | ●●● |
| Aluminum Aluminum alloys | Si < 0.5% | 10a | ●●● |
| | 0.5% < Si < 5% | 10b | ●●● |
| | Si > 5% | 10c | ○○○ |
| Synthetic materials Engineering plastics | Thermoplastic | 11a | ●●○ |
| | Thermoset | 11b | ●●○ |
| Composite materials Reinforced composites | Glass fiber / GFK | 12a | ●○○ |
| | Carbon fiber / KFK | 12b | ●○○ |
| Precious metals Gold, platinum, silver | Gold | 13a | ●●○ |
| | Platinum | 13b | ○○○ |

TECHNICAL DRAWING



DIMENSIONS

NOMINAL DIMENSIONS

| | |
|---------------|-------|
| D (0 / -0.01) | 12 mm |
| d (h5) | 12 mm |
| L | 83 mm |
| l1 | 26 mm |
| l3 | – |
| d3 | – |
| R | 6 mm |
| e | – |
| Z | 4 |
| Chamfer K | – |
| w° collision | – |



E-SHOP / EZI CUT
eskenazi.ch/eshop/21402-12

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