

## Application values

Screw tap, HSSE-PM Ultra HL M ISO 2X (6HX) 50° (right) 371 C (Art. no. 1014456 101-108)



| Material groups for cutting values       | Strength Class [N/mm <sup>2</sup> ] | Description regarding DIN | Vc [m/min] |
|--|-------------------------------------|---------------------------|------------|
| <b>1. Steels</b>                         |                                     |                           |            |
| 1.1 Free machining steel                 | < 900                               | 9 S 20                    | 16-30      |
| 1.2 Structural steel                     | <500                                | ST 37-2                   | 16-30      |
| 1.3 Structural steel                     | > 500                               | ST 60-2                   | 14-25      |
| 1.4 Heat-treated steel                   | <1000                               | 42 CrMo 4                 | 10-18      |
| 1.5 Cast iron                            | <1000                               | GS-45                     | 10-18      |
| 1.6 Case-hardened steel                  | <1200                               | 16 MnCr 5                 | 10-16      |
| 1.7 Ferritic/martensitic stainless steel | <1100                               | X 10 Cr 13                | 10-14      |
| 1.8 Heat-treated steel                   | >1000                               | 43 CrMo 4                 | 10-16      |
| 1.9 Nitriding steel                      | <1300                               | 31 CrMoV 9                | 10-16      |
| 1.10 Tool steel                          | <1300                               | X 38 CrMoV 5 1            | 6-12       |
| <b>2. Stainless steels</b>               |                                     |                           |            |
| 2.1 Austenitic stainless steel           | <1100                               | G-X 2 CrNiMo 18 15        | 10-14      |
| <b>3. Non-ferrous metals</b>             |                                     |                           |            |
| 3.1 Long-chipping aluminium              | <500                                | Al99.9                    | 20-30      |
| 3.2 Short-chipping aluminium             | <500                                | G-AlSi12                  | 12-16      |
| 3.3 Copper alloy bronze, long-chipping   | <1200                               | CuSn4                     | 15-25      |
| 3.4 Copper alloy bronze, short-chipping  | <850                                | CuNi12Zn24                | 8-16       |
| 3.5 Copper alloy brass, long-chipping    | <600                                | Cu Zn 20                  | 15-25      |
| 3.7 Thermoplastic                        | <600                                | Cu Zn 39 Pb 3             | 15-20      |
|  | <100                                | PVC, Acrylglas            | 10-30      |
| 3.8 Duroplast                            | <150                                | Bakelit, Melamin          | 8-25       |
| 3.9 Fibre-reinforced plastics            | <1500                               | CFK, GFK                  | 5-12       |
| 3.10 Graphite                            | <60                                 | C8000                     | 10-20      |
| 3.11 Composite materials                 |                                     |                           |            |
| <b>4. Cast metal</b>                     |                                     |                           |            |
| 4.1 Grey cast iron                       | <260 HB                             | GG10                      | 15-25      |
| 4.2 Spheroidal graphite iron             | <310 HB                             | GGG 40                    | 15-25      |
| 4.3 Ductile iron                         | <280 HB                             | GTW-55                    | 15-25      |
| <b>5. Special alloys</b>                 |                                     |                           |            |
| 5.1 Titanium alloy                       | <1200                               | TiAl5Sn2,5                | 4-8        |
| 5.2 Nickel-based alloy                   | <1400                               | NiCr21Mo                  | 2-8        |
| 5.3 Super alloys                         | <1400                               | X45CrSi 9 3               | 2-8        |

