

## Einsatzwerte

Hochleistungstieflochbohrer VHM-TIAlN HPC 16xD mit IK HA (Art.-Nr. 1011092 109-141)



| Materialgruppen für Schnittwerte | Festigkeit [N/mm <sup>2</sup> ]    | Bezeichnung nach DIN | Vc [m/min]         | f [mm/U] bei Durchmesser |            |             |            |           |
|----------------------------------|------------------------------------|----------------------|--------------------|--------------------------|------------|-------------|------------|-----------|
|                                  |                                    |                      |                    | 0-3                      | 3-5        | 5-8         | 8-12       |           |
| <b>1. Stähle</b>                 |                                    |                      |                    |                          |            |             |            |           |
| 1.1                              | Automatenstahl                     | < 900                | 9 S 20             | 80-120                   | 0.06-0.08  | 0.08-0.1    | 0.1-0.15   | 0.15-0.21 |
| 1.2                              | Baustahl                           | <500                 | ST 37-2            | 80-120                   | 0.06-0.08  | 0.08-0.1    | 0.1-0.15   | 0.15-0.21 |
| 1.3                              | Baustahl                           | > 500                | ST 60-2            | 80-120                   | 0.06-0.08  | 0.08-0.1    | 0.1-0.15   | 0.15-0.21 |
| 1.4                              | Vergütungsstahl                    | <1000                | 42 CrMo 4          | 80-110                   | 0.06-0.08  | 0.08-0.1    | 0.1-0.15   | 0.15-0.21 |
| 1.5                              | Stahlguss                          | <1000                | GS-45              | 80-100                   | 0.06-0.08  | 0.08-0.09   | 0.09-0.12  | 0.12-0.15 |
| 1.6                              | Einsatzstahl                       | <1200                | 16 MnCr 5          | 80-110                   | 0.06-0.08  | 0.08-0.09   | 0.09-0.12  | 0.12-0.15 |
| 1.7                              | Edelstahl ferritisch/martensitisch | <1100                | X 10 Cr 13         | 50-70                    | 0.06-0.08  | 0.08-0.09   | 0.09-0.12  | 0.12-0.15 |
| 1.8                              | Vergütungsstahl                    | >1000                | 43 CrMo 4          | 80-100                   | 0.06-0.08  | 0.08-0.09   | 0.09-0.12  | 0.12-0.15 |
| 1.9                              | Nitrierstahl                       | <1300                | 31 CrMoV 9         | 80-110                   | 0.06-0.08  | 0.08-0.09   | 0.09-0.12  | 0.12-0.15 |
| 1.10                             | Werkzeugstahl                      | <1300                | X 38 CrMoV 5 1     | 60-100                   | 0.06-0.08  | 0.08-0.1    | 0.1-0.15   | 0.15-0.21 |
| <b>2. Rostfreie Stähle</b>       |                                    |                      |                    |                          |            |             |            |           |
| 2.1                              | Edelstahl, austenitisch            | <1100                | G-X 2 CrNiMo 18 15 | 40-70                    | 0.06-0.08  | 0.08-0.09   | 0.09-0.12  | 0.12-0.15 |
| <b>3. NE-Metalle</b>             |                                    |                      |                    |                          |            |             |            |           |
| 3.1                              | Aluminium, langspanend             | <500                 | Al99.9             | 170-250                  | 0.08-0.095 | 0.095-0.12  | 0.12-0.17  | 0.17-0.23 |
| 3.2                              | Aluminium, kurzspanend             | <500                 | G-AlSi12           | 120-190                  | 0.08-0.095 | 0.095-0.12  | 0.12-0.17  | 0.17-0.23 |
| 3.3                              | Kupferleg. Bronze langspanend      | <1200                | CuSn4              | 100-150                  | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.21 |
| 3.4                              | Kupferleg. Bronze kurzspanend      | <850                 | CuNi12Zn24         | 100-130                  | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.21 |
| 3.5                              | Kupferleg. Messing langspanend     | <600                 | Cu Zn 20           | 130-190                  | 0.08-0.095 | 0.095-0.12  | 0.12-0.17  | 0.17-0.23 |
| 3.6                              | Kupferleg. Messing kurzspanend     | <600                 | Cu Zn 39 Pb 3      | 130-190                  | 0.08-0.095 | 0.095-0.12  | 0.12-0.17  | 0.17-0.23 |
| 3.7                              | Thermoplastic                      | <100                 | PVC, Acrylglas     | 40-80                    | 0.08-0.095 | 0.095-0.12  | 0.12-0.17  | 0.17-0.23 |
| 3.8                              | Duroplast                          | <150                 | Bakelit, Melamin   | 40-60                    | 0.08-0.095 | 0.095-0.12  | 0.12-0.17  | 0.17-0.23 |
| 3.9                              | Faserverstärkte Kunststoffe        | <1500                | CFK, GFK           | 40-60                    | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.21 |
| 3.10                             | Graphite                           | <60                  | C8000              | 90-110                   | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.21 |
| 3.11                             | Verbundwerkstoffe                  |                      |                    |                          |            |             |            |           |
| <b>4. Guss</b>                   |                                    |                      |                    |                          |            |             |            |           |
| 4.1                              | Grauguss                           | <260 HB              | GG10               | 70-110                   | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.2  |
| 4.2                              | Sphäroguss                         | <310 HB              | GGG 40             | 70-110                   | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.2  |
| 4.3                              | Gusseisen mit Kugelgraphit         | <280 HB              | GTW-55             | 70-110                   | 0.06-0.085 | 0.085-0.1   | 0.1-0.15   | 0.15-0.2  |
| <b>5. Sonderlegierungen</b>      |                                    |                      |                    |                          |            |             |            |           |
| 5.1                              | Titanlegierung                     | <1200                | TiAl5Sn2,5         | 20-30                    | 0.05-0.065 | 0.065-0.075 | 0.075-0.09 | 0.09-0.12 |
| 5.2                              | Nickelbasislegierung               | <1400                | NiCr21Mo           | 20-30                    | 0.05-0.065 | 0.065-0.075 | 0.075-0.09 | 0.09-0.12 |
| 5.3                              | Superlegierungen                   | <1400                | X45CrSi 9 3        | 20-30                    | 0.05-0.065 | 0.065-0.075 | 0.075-0.09 | 0.09-0.12 |

