

# FORM TAPS

| Material group                                  | Approximate Rc  | Approximate HB   | Recommended SFM |          |               |
|---|-----------------|------------------|-----------------|----------|---------------|
|   |                 |                  | HSS-E           | HSS-E-PM | Solid carbide |
| Structural steels, free-cutting steels          |                 | <180             | 45-70           | 60-90    | 90-120        |
| Unalloyed case hardened steels                  | <20             | <230             | 40-65           | 55-80    | 75-100        |
| Unalloyed heat-treatable steels                 | <25             | <250             | 30-55           | 50-75    | 65-95         |
| Structural steels, free-cutting steels          | <20             | <230             | 40-65           | 55-80    | 75-100        |
| Case hardened steels, heat-treatable steels     | <25             | <250             | 30-55           | 50-75    | 65-95         |
| Nitriding steels, spheroidal graphite iron      | <30             | <280             | 25-45           | 40-70    | 60-85         |
|   | <35             | <320             | 20-35           | 35-60    | 50-75         |
|   | <38             | <380             | -               | -        | -             |
| Stainless- and acid-resistant steels, sulphured |                 | <180             | 40-50           | 45-60    | 50-70         |
| austenitic                                      | <25             | <250             | 35-50           | 40-55    | 45-60         |
| martensitic                                     | <30             | <280             | 25-40           | 35-50    | 40-55         |
|   | <35             | <320             | -               | 25-40    | 30-45         |
| Alloyed case hardened steels                    | <25             | <250             | 25-45           | 40-60    | 55-80         |
| Alloyed heat-treatable steels                   | <30             | <280             | 20-40           | 35-55    | 50-70         |
| Alloyed tool steels                             | <35             | <320             | 15-30           | 30-50    | 40-60         |
| High speed tool steels                          | <38             | <380             | -               | -        | -             |
|   | <44             | <415             | -               | -        | -             |
|   | <60             |                  | -               | -        | -             |
| Cast iron                                       |                 | <180             | -               | -        | -             |
| Spheroidal graphite iron                        | <25             | <250             | 40-65           | 60-80    | 75-130        |
| Malleable cast iron                             | <35             | <320             | 40-65           | 60-80    | 75-130        |
| Aluminium and Al-alloys                         | Silicon Content | Wrought Aluminum |                 |          |               |
| Al cast alloys                                  | <10%            | n/a              | 60-75           | 70-140   | 100-165       |
|   | >10%            | n/a              | -               | -        | -             |
| Al wrought alloys                               | n/a             | 30-80            | 80-100          | 100-150  | 150-200       |
|   | n/a             | 75-150           | 80-100          | 100-150  | 150-200       |
| Titanium and Ti-alloys                          |                 | <320             | 7-26            | 7-26     | 20-35         |
|   |                 | >320             | -               | -        | -             |
| Nickel and Ni-alloys                            |                 | <320             | 7-26            | 7-26     | 20-35         |
|   |                 | >320             | -               | -        | -             |
| Plastics  |                 |                  | -               | -        | -             |
| Magnesium-alloys                                |                 |                  | -               | -        | -             |
| Brass, short-chipping                           |                 | <180             | 35-50           | 50-65    | 75-100        |
| long-chipping                                   |                 | <180             | 40-65           | 60-80    | 80-120        |