



## List 4730 & 4630: 3-Flute, Stub Length, Ball End

| Hardness      |                         | -   | -                                | -              | -                            | 45 HRC         | 65 HRC        | 70 HRC      |               |             |               |             |               |             |               |      |    |    |     |        |       |     |      |
|---------------|-------------------------|---|----------------------------------|----------------|------------------------------|----------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|------|----|----|-----|--------|-------|-----|------|
| Work Material |                         | Stainless Steel   | Cobalt-Chromium Alloy (Stellite) | Titanium Alloy | Ni-Based Alloy (Inconel 718) | Hardened Steel |               |             |               |             |               |             |               |             |               |      |    |    |     |        |       |     |      |
| SFM           |                         | 195-260   | 165-230                          | 135-190        | 70-130                       | 165-230        | 135-190       | 70-130      |               |             |               |             |               |             |               |      |    |    |     |        |       |     |      |
| Depth of Cut  |                         | <table border="1"> <tr> <th>Dia</th> <th>aa</th> <th>ar</th> </tr> <tr> <td>R≤6</td> <td>≤0.15D</td> <td rowspan="2">0.05D</td> </tr> <tr> <td>R&gt;6</td> <td>≤3mm</td> </tr> </table> |                                  |                |                              |                |               |             |               |             |               |             |               |             |               | Dia  | aa | ar | R≤6 | ≤0.15D | 0.05D | R>6 | ≤3mm |
| Dia           | aa                      | ar  |                                  |                |                              |                |               |             |               |             |               |             |               |             |               |      |    |    |     |        |       |     |      |
| R≤6           | ≤0.15D                  | 0.05D   |                                  |                |                              |                |               |             |               |             |               |             |               |             |               |      |    |    |     |        |       |     |      |
| R>6           | ≤3mm                    |   |                                  |                |                              |                |               |             |               |             |               |             |               |             |               |      |    |    |     |        |       |     |      |
| Mill Dia.     | Non-Tapered Neck Length | Speed (RPM)   | Feed (in/min)                    | Speed (RPM)    | Feed (in/min)                | Speed (RPM)    | Feed (in/min) | Speed (RPM) | Feed (in/min) | Speed (RPM) | Feed (in/min) | Speed (RPM) | Feed (in/min) | Speed (RPM) | Feed (in/min) |      |    |    |     |        |       |     |      |
| -             | 2                       | 4   | 11100                            | 43.3           | 9500                         | 37.0           | 8000          | 31.1        | 4800          | 18.9        | 9500          | 37.0        | 8000          | 31.1        | 4800          | 18.9 |    |    |     |        |       |     |      |
|               |                         | 8   | 5600                             | 19.7           | 4800                         | 16.9           | 4300          | 15.4        | 2600          | 9.1         | 4800          | 16.9        | 4300          | 15.4        | 2600          | 9.1  |    |    |     |        |       |     |      |
| 3/32          | -                       | 3/16  | 9371                             | 36.6           | 8020                         | 31.2           | 6754          | 26.3        | 4052          | 16.0        | 8020          | 31.2        | 6754          | 26.3        | 4052          | 16.0 |    |    |     |        |       |     |      |
|               |                         | 3/8   | 4728                             | 16.6           | 4052                         | 14.3           | 3630          | 13.0        | 2195          | 7.7         | 4052          | 14.3        | 3630          | 13.0        | 2195          | 7.7  |    |    |     |        |       |     |      |
| -             | 3                       | 6   | 7400                             | 43.3           | 6400                         | 37.8           | 5300          | 31.5        | 3200          | 18.9        | 6400          | 37.8        | 5300          | 31.5        | 3200          | 18.9 |    |    |     |        |       |     |      |
|               |                         | 12  | 4400                             | 23.2           | 3800                         | 20.1           | 3300          | 17.7        | 2000          | 10.6        | 3800          | 20.1        | 3300          | 17.7        | 2000          | 10.6 |    |    |     |        |       |     |      |
| 1/8           | -                       | 1/4   | 7028                             | 41.1           | 6078                         | 35.9           | 5034          | 29.9        | 3039          | 17.9        | 6078          | 35.9        | 5034          | 29.9        | 3039          | 17.9 |    |    |     |        |       |     |      |
|               |                         | 1/2   | 4179                             | 22.0           | 3609                         | 19.1           | 3134          | 16.8        | 1899          | 10.1        | 3609          | 19.1        | 3134          | 16.8        | 1899          | 10.1 |    |    |     |        |       |     |      |
| -             | 4                       | 8   | 5600                             | 42.5           | 4800                         | 36.6           | 4000          | 30.3        | 2400          | 18.5        | 4800          | 36.6        | 4000          | 30.3        | 2400          | 18.5 |    |    |     |        |       |     |      |
|               |                         | 16  | 3400                             | 22.4           | 2900                         | 19.3           | 2500          | 16.5        | 1500          | 9.8         | 2900          | 19.3        | 2500          | 16.5        | 1500          | 9.8  |    |    |     |        |       |     |      |
| 3/16          | -                       | 3/8   | 4685                             | 35.6           | 3956                         | 30.2           | 3332          | 25.2        | 1978          | 15.2        | 3956          | 30.2        | 3332          | 25.2        | 1978          | 15.2 |    |    |     |        |       |     |      |
|               |                         | 3/4   | 2844                             | 18.7           | 2438                         | 16.2           | 2032          | 13.4        | 1219          | 8.0         | 2438          | 16.2        | 2032          | 13.4        | 1219          | 8.0  |    |    |     |        |       |     |      |
| -             | 5                       | 10  | 4500                             | 42.5           | 3800                         | 35.8           | 3200          | 30.3        | 1900          | 18.1        | 3800          | 35.8        | 3200          | 30.3        | 1900          | 18.1 |    |    |     |        |       |     |      |
|               |                         | 20  | 2800                             | 23.6           | 2400                         | 20.5           | 2000          | 16.9        | 1200          | 11.0        | 2400          | 21.7        | 2000          | 16.9        | 1200          | 11.0 |    |    |     |        |       |     |      |
| -             | -                       | 6   | 3700                             | 44.1           | 3200                         | 37.8           | 2700          | 31.5        | 1600          | 18.9        | 3200          | 37.8        | 2700          | 31.5        | 1600          | 18.9 |    |    |     |        |       |     |      |
| 1/4           | -                       | -   | 3514                             | 41.9           | 3012                         | 35.6           | 2510          | 29.3        | 1506          | 17.8        | 3012          | 35.6        | 2510          | 29.3        | 1506          | 17.8 |    |    |     |        |       |     |      |
| 5/16          | -                       | -   | 2811                             | 39.6           | 2431                         | 34.3           | 2051          | 29.0        | 1216          | 17.1        | 2431          | 34.3        | 2051          | 29.0        | 1216          | 17.1 |    |    |     |        |       |     |      |
| -             | -                       | 8   | 2800                             | 39.4           | 2400                         | 33.9           | 2000          | 28.3        | 1200          | 16.9        | 2400          | 33.9        | 2000          | 28.3        | 1200          | 16.9 |    |    |     |        |       |     |      |
| -             | -                       | 10  | 2200                             | 39.4           | 1900                         | 33.9           | 1600          | 28.3        | 960           | 16.9        | 1900          | 33.9        | 1600          | 28.3        | 960           | 16.9 |    |    |     |        |       |     |      |
| -             | -                       | 12  | 1900                             | 44.1           | 1600                         | 37.8           | 1300          | 31.5        | 800           | 18.9        | 1600          | 37.8        | 1300          | 31.5        | 800           | 18.9 |    |    |     |        |       |     |      |
| 9/16          | -                       | -   | 1562                             | 36.3           | 1325                         | 31.3           | 1089          | 26.4        | 663           | 15.7        | 1325          | 31.3        | 1089          | 26.4        | 663           | 15.7 |    |    |     |        |       |     |      |
| -             | -                       | 16  | 1400                             | 36.2           | 1200                         | 31.1           | 1000          | 26.0        | 600           | 15.4        | 1200          | 31.1        | 1000          | 26.0        | 600           | 15.4 |    |    |     |        |       |     |      |
| 3/4           | -                       | -   | 1171                             | 30.3           | 1030                         | 26.7           | 843           | 21.9        | 506           | 13.0        | 1030          | 26.7        | 843           | 21.9        | 506           | 13.0 |    |    |     |        |       |     |      |
| -             | -                       | 20  | 1100                             | 33.1           | 1000                         | 28.3           | 800           | 23.6        | 480           | 14.2        | 1000          | 28.3        | 800           | 23.6        | 480           | 14.2 |    |    |     |        |       |     |      |

1. This tool is recommended for the roughing of additive manufacturing and mold overlay surfaces.
2. Please use machines and holders that are rigid and highly accurate.
3. The values listed above are for reference. Please set the cutting condition in accordance with the actual machining environment.
4. Please reduce the feed rate when the depth of cut is greater than specified.
5. Please adjust the speed, feed and depth of cut accordingly when the overhang length is longer than specified.
6. Please use a suitable fluid with high smoke retardant properties.
7. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.
8. Please use water-soluble coolant when machining stainless steel, cobalt-chromium based alloy, titanium alloy, and Ni-based alloy.
9. Tool runout should be kept to a minimum for maximum accuracy.
10. When the cutting load fluctuates in areas such as the corners, please reduce the rotational speed.

ABOUT OSG

DRILLING

THREADING

MILLING

HOLDERS

INDEX

