## HY-PRO CARB

Performance Sub-Micrograin Carbide End Mills

## List HP411

4 Flute, Short Length, Long Neck



| EDP <br> Number | Mill <br> Diameter | Overall <br> Length | Length <br> of Cut | Neck <br> Length | Neck <br> Diameter | Shank <br> Diameter |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TiAIN | D | L | Lc | L1 | d2 | d |
| HP411-1250 | $1 / 8$ | 3 | $3 / 16$ | $5 / 8$ | 0.119 | $1 / 4$ |
| HP411-1875 | $3 / 16$ | 3 | $9 / 32$ | $15 / 16$ | 0.182 | $1 / 4$ |
| HP411-2500 | $1 / 4$ | 4 | $3 / 8$ | $1-1 / 4$ | 0.244 | $1 / 4$ |

Packed: 1 pc.
Available TiAIN coating only.
HPC

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| EDP <br> Number | Mill <br> Diameter | Overall <br> Length | Length <br> of Cut | Neck <br> Length | Neck <br> Diameter | Shank <br> Diameter |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TiAIN | D | L | Lc | L1 | d2 | d |
| HP411-1181 | 3.0 | 70 | 4.5 | 15.0 | 2.85 | 6 |
| HP411-1378 | 3.5 | 70 | 5.3 | 17.5 | 3.35 | 6 |
| HP411-1575 | 4.0 | 70 | 6.0 | 20.0 | 3.85 | 6 |
| HP411-1969 | 5.0 | 80 | 7.5 | 25.0 | 4.85 | 6 |

Packed: 1 pc.
Available TiAIN coating only.


## OSG's Performance \& Savings

Want to turbo-charge performance? Try EXOCARB ${ }^{\circledR}$ WXL ${ }^{\bullet}$ - List 3794 (p. 881-882)

| Work Material |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | P |  |  |  |  | M |  |  | K | N |  | 5 |  | H |  |  |  |
|  | Carbon Steels |  |  | Alloy <br> Steels | Die Steels | Stainless Steels |  |  | Cast Iron | Aluminum |  | Nickel Alloy | Titanium | Hardened Steels |  |  |  |
| List No. | Low | Med. | High |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\begin{aligned} & 1010 \\ & 1018 \end{aligned}$ | $\begin{aligned} & 1035 \\ & 1045 \end{aligned}$ | 1065 | $\begin{aligned} & 4140 \\ & 4340 \end{aligned}$ |  | 300 | 400 | 17-4 PH |  | $\begin{aligned} & 6061 \\ & 7075 \end{aligned}$ | Casting | Inconel | $\begin{gathered} \text { 6AI4V } \\ (30 \mathrm{HRC}) \end{gathered}$ | $\begin{aligned} & \sim 35 \\ & \text { HRC } \end{aligned}$ | $\begin{aligned} & 35-45 \\ & \text { HRC } \end{aligned}$ | $\begin{aligned} & \hline 45-50 \\ & \text { HRC } \end{aligned}$ | $\begin{gathered} \hline 50-70 \\ \text { HRC } \end{gathered}$ |
| HP411 | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |  |  |  | $\bigcirc$ |  |  |  |  | $\bigcirc$ | $\bigcirc$ |  |  |

good
(c) best

978
WWW.OSGTOOL.COM

