

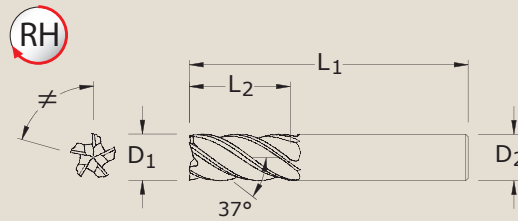


**CARB-HPR**  
HIGH PERFORMANCE ROUGHER

TOLERANCES (inch)		
DIAMETER	D <sub>1</sub>	D <sub>2</sub>
1/8 - 1/4	+0.0000 / -0.0012	h6
> 1/4 - 3/8	+0.0000 / -0.0016	h6
> 3/8 - 1	+0.0000 / -0.0020	h6

CORNER RADIUS TOLERANCES (inch)
R = +0.0000 / -0.0020



**SERIES Z5  
(FRACTIONAL)**

Cutting Diameter D <sub>1</sub>	Length of Cut L <sub>2</sub>	Overall Length L <sub>1</sub>	Shank Diameter D <sub>2</sub>	Ti-Namite-M (TM) EDP No. w/o Flat	Ti-Namite-M (TM) EDP No. w/ Flat	Ti-Namite-M (TM) EDP No. w/Internal Coolant
1/8	1/4	1-1/2	1/8	37000	-	-
1/8	3/8	1-1/2	1/8	37002	-	-
3/16	5/16	2	3/16	37004	-	-
3/16	1/2	2	3/16	37006	-	-
1/4	3/8	2-1/2	1/4	37008	-	-
1/4	1/2	2-1/2	1/4	37011	-	-
5/16	7/16	2-1/2	5/16	37014	-	-
5/16	5/8	2-1/2	5/16	37016	-	-
3/8	1/2	2-1/2	3/8	37018	-	-
3/8	3/4	2-1/2	3/8	37021	-	-
1/2	5/8	3	1/2	37024	37030	-
1/2	1	3	1/2	37036	37042	-
1/2	1-1/4	3-1/4	1/2	37048	37054	-
5/8	3/4	3-1/2	5/8	37060	37067	37260
5/8	1-1/4	3-1/2	5/8	37074	37081	37267
3/4	7/8	4	3/4	37088	37095	37274
3/4	1-1/2	4	3/4	37102	37109	37281
1	1-1/8	4	1	37116	37123	37288
1	1-1/2	4	1	37130	37137	37295
1	2	4-1/2	1	37144	37151	37302