



The almost flat bottom MX at left is 2.0" diameter so is 3.1 sq. in. area minus the waterways (1.1 sq. in.) = 2.0 sq.in. area that can transfer energy to the target. Our experience has shown that between 100 and 500 psi is what is required to cut even the hardest target. On this mill that would be only 200 to 1,000 lbs.

As the small grit does work they will flatten from abrasion or fracture from impact loads and when more than half of the diamond is exposed it will slough out of the matrix which wears away to expose fresh grit. This action continues throughout the thickness of impreg.

If excess WOB is applied it can actually displace the matrix which is held together by a binder alloy that is much like brass or bronze.

Mill Diameter	Area	50%	WOB Range	75%	WOB Range
2.0	3.1	1.55	155 - 800 lbs	2.4	240 - 1200 lbs
2.5	4.9	2.45	245 - 1225	3.7	370 - 1850
3.0	7	3.5	350 - 1750	5.3	530 - 2650
3.5	9.6	4.8	480 - 2400	7.2	720 - 3600
4.0	12.6	6.3	630 - 3150	9.45	945 - 4725
4.5	15.9	8	800 - 4000	12	1200 - 6000
5.0	19.6	9.8	980 - 4900	14.7	1470 - 7350
5.5	23.8	11.9	1190 - 5950	17.9	1790 - 8950
6.0	28.3	14.2	1420 - 7075	21.3	2130 - 10650
6.5	33.2	16.6	1660 - 8300	24.9	2490 - 12450
7.0	38.5	19.3	1930 - 9650	29	2900 - 14500
7.5	44.2	22.1	2210 - 11050	33.2	3320 - 16600
8.0	50.2	25.1	2510 - 12550	37.6	3760 - 18800
8.5	56.8	28.4	2840 - 14200	42.6	4260 - 21300

EXAMPLE:

3 1/2" MX Total area = 9.6 sq.in.

about 50% of that area = 4.8 sq.in.

X 100 to 500 psi = 480 to 2400 lbs



3 1/2" MXT Total area = 9.6 sq.in.

about 75% of that area = 7.2 sq.in.

X 100 to 500 psi = 720 to 3600 lbs

