ATI 500-MIL® High Hard Specialty Steel Armor

Material Designation	
ATI	
ATI 500-MIL®	
Hardness Brinell	520 HB
Hard Materials H	

Operation	Cutter / Insert	Dia. mm	Z	Vc m/min	ap mm	F mm/min	ae mm	fz mm/tr
1	Rapide® Solid Carbide End Mill	15.88	6	80	16	481	0.5	0.05
2	High Feed Milling Grade X400	50.8	4	60	0.8	451	50.8	0.3
3	High Feed Milling Grade X400	50.8	4	60	0.6	60	50.8	0.04
4	Rapide® Solid Carbide End Mill	15.88	6	80	0.25	481	15.88	0.05
5	High Feed Milling Grade X400	38.1	5	60	1	752	38.1	0.3
6	Rapide® Solid Carbide End Mill	12.7	6	90	0.5	947	0.5	0.07
7	Rapide® Solid Carbide End Mill	8	3	80	0.5	382	8	0.04
8	HardCore® Drill	6	1	60	16	318	6	0.1

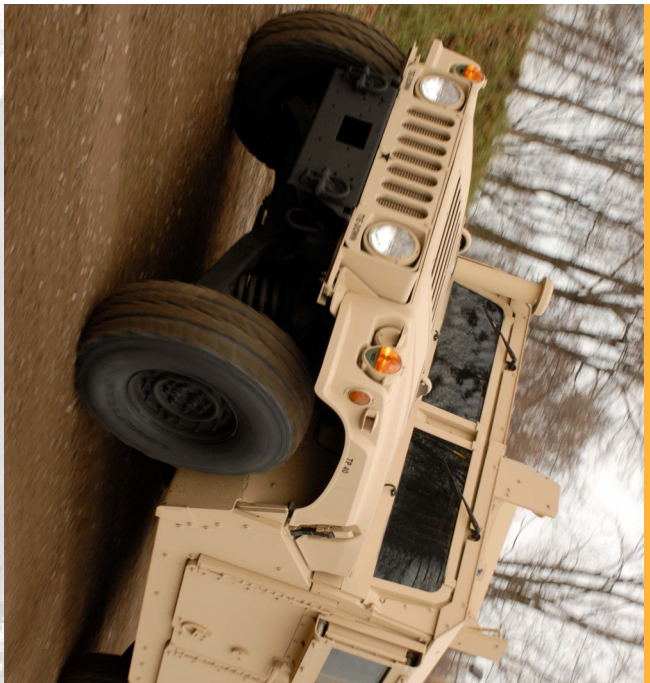
ATI K12® - MIL Dual Hard Armor Plate

Material Designation	
ATI	
ATI K12® - MIL	
Hardness Brinell	600 HB
Hard Materials H	

Operation	Cutter / Insert	Dia. mm	Z	Vc m/min	ap mm	F mm/min	ae mm	fz mm/tr
1	Rapide® Solid Carbide End Mill	15.88	6	80	16	481	0.5	0.05
2	High Feed Milling Grade X400	50.8	4	60	0.8	451	50.8	0.3
3	High Feed Milling Grade X400	50.8	4	60	0.6	60	50.8	0.04
4	Rapide® Solid Carbide End Mill	15.88	6	80	0.25	481	15.88	0.05
5	High Feed Milling Grade X400	38.1	5	60	1	752	38.1	0.3
6	Rapide® Solid Carbide End Mill	12.7	6	90	0.5	947	0.5	0.07
7	Rapide® Solid Carbide End Mill	8	3	80	0.5	382	8	0.04
8	HardCore® Drill	6	1	60	16	318	6	0.1

Transforming Your Challenges into Strategic Advantages

In conjunction with: ATI Defense



Machining Solutions for High Performance Metals

ATI

Mission Critical Metallics®

ATI 425® Titanium Alloy

- An innovative high strength alloy that has strength comparable to 6-4 Titanium.
- A versatile alloy that can be produced in a variety of forms, including sheet, coil, strip, Precision Rolled Strip® product, plate, seamless tube, pipe as well as cast & engineered products.
- A high strength alloy that can be cold worked easily, compared to 6-4 Titanium which is not cold workable.

ATI 500-MIL® High Hard Specialty Steel Armor

- A wrought Ni-CR-Mo specialty steel alloy that lends itself to excellent toughness while maintaining ballistic resistance and exhibiting good blast properties.
- Low residual stresses and minimal distortion are exhibited even after mechanical cutting due to the processing practices utilized during the manufacturing of this alloy.
- ATI 500-MIL™ specialty steel is available in standard mill plate gauges from 0.1875 inches to 2.0 inches (4.762mm to 50.8 mm).

ATI K12®-MIL Dual Hard Armor Plate

- This product consists of a high hardness front side to break up or flatten projectiles and a softer back that functions to capture the projectile.
- Both faces are carefully and precisely roll bonded in a multi-step proprietary process which is crucial in achieving optimum ballistic performance.
- Normally supplied in a annealed condition so that it may be more easily cut and formed.
- Can additionally be supplied as heat treated parts cut to the final configuration.
- ATI K12® –MIL plate is normally supplied in thicknesses ranging from 0.187 inches to 0.50 inches (4.76mm to 12.7mm) with widths as wide as 60 inches (1,525mm) and lengths as long as 200 inches (5.0m).

Solutions for "High Performance" Metals

Rapide® High Performance End Mills

- Rapide® solid carbide end mills match high quality substrates, tool geometry & coating to raise your productivity levels.
- Comparative testing against leading brands have shown a 50% increase in performance, with up to 75% increase in tool life.

HardCore® Drilling Technology

- HardCore® Technology allows you to achieve up to four times greater tool life.
- The combination of HardCore® Technology and the unique cutting geometry leads to two times faster feed rates.
- Specially designed flute profile allows for superior chip evacuation.

7690VA12 Power Mill 90™ Cutters

- Powermill90™ cutters have excellent chip evacuation and improved part quality while producing a true 90 degree profile in "high performance" metals.

7710VR12 Anti-Rotation Cutters

- Round inserts with a patent pending locking indexation system prevents insert movement even under the heaviest feed rates.
- Cutters have the maximum number of teeth for heavy feed operations.
- Through the tool coolant coupled with a unique pocket design maximizes chip evacuation.

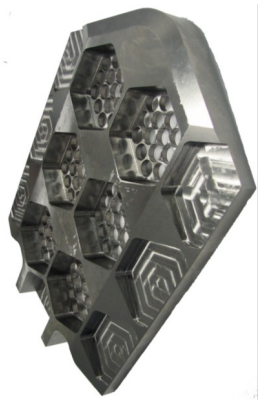
7792VXD High Feed Cutters

- Four cutting edges allow you to perform facing, plunging, pocketing & slotting operations with just one tool.
- Maximize metal removal rates by utilizing high feed rates and low depths of cut.

ATI Stellram

ATI 425® Titanium Alloy

Operation	Cutter / Insert	Dia. mm	z	Vc m/min	ap mm	F mm/min	ae mm	fz mm/tr
1	Rapide® Solid Carbide End Mill	15.88	6	80	23	481	0.5	0.05
2	Anti-Rotation Cutter 422 Geometry Grade X700	50.8	5	60	2	320	50.8	0.17
3	High Feed Milling Grade X500	50.8	5	70	0.8	877	50.8	0.4
4	PowerMill 90™ - 48 Geometry Grade SP6519	31.75	3	60	8	180	31.75	0.1
5	Rapide® Solid Carbide End Mill	15.88	6	80	23	481	0.5	0.05
6	High Feed Milling Grade X500	38.1	5	70	1	1170	38.1	0.4
7	Rapide® Solid Carbide End Mill	12.7	3	80	18	241	0.5	0.04
8	High Feed Milling Grade X500	31.75	3	70	0.8	737	31.75	0.35
9	Rapide® Solid Carbide End Mill	12.7	3	80	16	241	0.5	0.04



Material Designation	
ATI	
ATI 425®	
Hardness Brinell	318 HB
Alpha Beta Titanium	S