

BNZ Materials, Inc.

Billerica Plant

400 Iron Horse Park
North Billerica, MA U.S.A. 01862
Phone: (978) 663-3401
FAX: (978) 663-2735
May 1, 2004

General Cutting Information

Marinite and Transite should be cut and fabricated dry, with no lubricant. Use of the proper equipment and procedures will yield clean, chip free edges. Adequate dust collection during cutting should also be used.

An overhead radial saw with adjustable blade rotation speed can be used for all Marinite and Transite board products. A hold down device close to and on either side of the cut will eliminate vibration and movement of the material that could cause chipping. The use of a slotted board support beneath the panel is also recommended.

- **Specific**

Marinite I, Marinite P and Marinite C can be cut with a # 3 carbide, triple chip tipped blade with about a 20 degree positive rake and .010" to .015" kerf on both sides of the cutting teeth. (See also diamond chip under Transite HT). The blade speed can be up to 11,000 surface feet per minute with a feed rate of 20 linear feet per minute when using a sharp blade.

Terminology:

A positive rake would be when the outer most edge of the tooth is the first part of the tip to go into the material; opposed to a negative rake where the bottom edge of the cutting tooth is the first part of the cutting edge to enter the material. A triple chip tip will cut the best and last the longest. Surface speed of the blade is extremely important and is determined by calculating the number of feet a point on the outside circumference of the blade will travel in one minute while the blade turns (3.14 x blade diameter (ft.) x rpm). The kerf or thickness of the cutting tooth, provides clearance for the body of the blade and should be about .020" thicker than the blade itself, to minimize drag and frictional heat. Blade penetration should be 3/8" beyond the material. Feed rate of the blade into the material or the material into the blade, can be adjusted depending on the hardness of the material and sharpness of the blade. A feed speed of 20 fpm can be expected using a sharp blade. When the feed rate decreases to 12 fpm, the blade should be changed. Typical blade life between sharpening would be 2000 linear feet for Marinite I, 600 linear feet for Marinite P and 1200 linear feet for Marinite C.

- **Specific:**

Marinite A, Marinite AHP and CS85 can be cut with a # 3 carbide, triple chip tipped blade with a 5 to 12 degree negative rake and .010" to .015" kerf on each side of the cutting teeth. (See also diamond chip under Transite HT). The blade speed should be at or below 3000 surface feet per minute with a feed rate of 5 linear feet per minute when using a sharp blade. A table with surface speeds at various blade diameters can be found in our "Cutting and Fabricating Marinite A" brochure BNZ MA1.

Typical blade life between sharpening. would be 6000 linear feet.

- **Specific:**

Transite HT must also be cut dry using a 25 or 30 grit diamond chip with a 1/8" to 3/16" wrap on a steel blade. The blade speed should be at or below 3000 surface feet per minute with a feed rate of 5 linear feet per minute when using a sharp blade. A table with surface speeds at various blade diameters can be found in our "Cutting and Fabricating Marinite A" brochure BNZ MA1.

Terminology:

Grit is the size of diamond particles brazed onto the blade. The size of the wrap is the distance the abrasive material coats the blade around and up either side of the blade. The abrasive diamond grit used to cut Marinite and Transite is very unlike the diamond chip blade used to wet cut high density refractories, whereby it has hundreds of fairly coarse chips per inch. You cannot cut Transite with the above mentioned carbide blades nor the composite blades used to cut concrete.

Abrasive diamond chip can also be used to cut all of our other products mentioned above.

