



## Optimum Saw Blade Selection

The selection of a saw Blade to meet life and speed of cut expectations depends upon the ability to judge the likely properties of chips generated during cutting. Chip sizes are determined by material grain structure, cutting conditions and saw Blade design.

The anticipated chip size in relation to these factors is shown below

Larger Chips	Smaller Chips
Material to be cut	
Small grain size	Larger grain size
Cracked grain structure	Homogenous grain structure
Strongly cemented grains	Weakly cemented grains
Friable grains	High strength grains
Cutting conditions	
Lower Blade speeds (m/sec)	Higher Blade speeds (m/sec)
Higher traverse rates	Lower traverse rates
Blade design	
Larger Diamond	Smaller Diamond
Lower Diamond concentration	Higher Diamond concentration
Softer bond	Harder bond
Shorter segments	Longer segments

Having observed Blade wear pattern on the “First Position” Blade, modifications may be required to meet customers’ expectations.

Wear Pattern	Cutting Characteristics	Cause	Remedy
Diamond exposed tending to flatten, no wash pattern or trailing	Dull cutting. Centre worn or bent	Excessive m/sec	Lower concentration and softer bond
No Diamond exposure, wash pattern or tailing	Dull cutting centre worn or bent	Bond too hard	Softer bond
Excessive pluck out of Diamond and fractured Diamond particles	Dull cutting centre and short life	Concentration too low Machine in bad condition	Increase concentration and fix machine
Good Diamond exposure, wash pattern and tailing	Short life too fast cutting	Bond too soft	Harder bond

