

**CHEMFORCE**



# S-Complex™

## CASE STUDY: Melocco Stone – 10<sup>th</sup> November 2020

**PROJECT :** Trial on Austral Black, Green Verde

**PLACE :** 21/23 Red Gum Dr, Dandenong South VIC 3175

**DATE :** 10<sup>th</sup> November 2020

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### Project requirements:

- 1) Increase production on F11 Zambon Block Saw
- 2) Cleaner cuts when sawing through Austral Verde and Austral Black, maintain square cuts whilst increasing depth of cuts, minimize large chips and blowouts.
- 3) Test injector dosing system, directly dose the saw with S-Complex™
- 4) Monitor load on system to determine performance and cut times.
- 5) Test compatibility of S-Complex™ with the water recycling system
- 6) Monitor audio levels to determine dB reduction in noise.
- 7) Increase tool life - Monitor blade segments whilst increasing depth of cut





**MELOCCO STONE**  
BLOCKSAW 4 OPERATING PARAMETERS

**BLADE SPEED AND DOWNFEED SETTINGS**

| MATERIAL      | BLOCK SETTING | CROSS TRAVEL | DROP (mm) |       | BLADE SPEED |
|---------------|---------------|--------------|-----------|-------|-------------|
|               |               |              | BLUNT     | SHARP |             |
| SANDSTONE     | BLUESTONE     | 3m/min       | 15mm      | 25mm  | 23m/min     |
| BLUESTONE     | BLUESTONE     | 3m/min       | 10mm      | 20mm  | 23m/min     |
| AUSTRAL BLACK | BLACK         | 3m/min       | 6mm       | 12mm  | 23m/min     |
| VERDE AUSTRAL | GREY          | 3m/min       | 4mm       | 6mm   | 25m/min     |

Note: 1. MAXIMUM DEPTH OF CUT IS 1347mm  
2. SEGMENT PERFORMANCE IS BASED ON SEGMENTS SUPPLIED BY ADT. ALTERNATIVE SEGMENTS MAY NOT ACHIEVE THE SAME PARAMETERS

**CHEMFORCE Solution:**

- 1) System was dosed with 0.4% Rache S-Complex™

**CHEMFORCE Results:**

- 1) 3 x the depth of cut per pass, with no detriment to the finished product. Austral Black  
Fresh water - 12mm passes  
Dosed with S-Complex™ - 36mm passes
- 2) Square cuts were maintained
- 3) 3.3 dB average reduction in saw noise (Half the noise).
- 4) Diamond segments did not glaze over, maintained excellent comet tails and minimal pull out of diamonds.
- 5) Was able to complete a day's production by 11am in the morning.



Diamonds are perfect



36mm Cut



Square cut

# S-Complex™

- + Improved productivity by 300%
- + Cleaner cuts
- + Reduced noise in factory 50%

## Load on the saw:

When you are using S-Complex, we will assume that you are chasing higher production rates. This must be kept in mind when you are monitoring the load on the saw. Deeper cuts will cause higher loads. This is not a bad thing. Continue to monitor the blade and ensure that you are exposing fresh diamonds and the blade is sharp. Being familiar with the sounds of the saw will be the easiest way to determine if you are pushing the saw too hard or your blade is glazing over. A sharp blade will be removing more material per revolution.



12mm depth of cut with water

36mm depth of cut with S-Complex™

## Noise Reduction:

Below we can observe a 3.3 dB average reduction in the volume of the cut. This is a logarithmic measurement that in real world terms equates to half the volume. Also, worth noting is the reduction in the time of the cut.

10 Nov 2020 at 1:45 pm

Water cuts 1- 1:49pm (3min. 28s.)

### Sound intensity (dB)

| Minimum | Average | Maximum |
|---------|---------|---------|
| 61.7    | 67.5    | 73.0    |



10 Nov 2020 at 2:03 pm

With s- compound (2min. 46s.)

### Sound intensity (dB)

| Minimum | Average | Maximum |
|---------|---------|---------|
| 60.6    | 64.2    | 68.3    |



## Filtration System:

Below we can see a minor build-up of foam on the surface of the main settling tank. The filtration is not compromised.

Filter cakes are well formed and drier than without S-Complex™. The filters are also staying cleaner.

