



# S-Complex™

## CASE STUDY : Hard Rock Stone Works USA - 26th January 2021

**PROJECT :** Baca Robot Trial – Hard Rock Stone Works  
**PLACE :** 44038 Phoenix Dr. Sterling Heights, MI 48314 U.S.A  
**DATE :** 26<sup>th</sup> January 2021  
**CONTACT DETAILS :** Bob Finn  
**EMAIL :** bobf@hardrockstoneworks.com  
**WEB :** www.hardrockstoneworks.com

### Client:

Hard Rock Stone Works.  
Who typically deal with Granite, Marble, Quartzite, Soapstone, and Engineered Quartz.  
In 2017 alone, Hard Rock fabricated more than 60,000 square feet of stone for commercial projects.

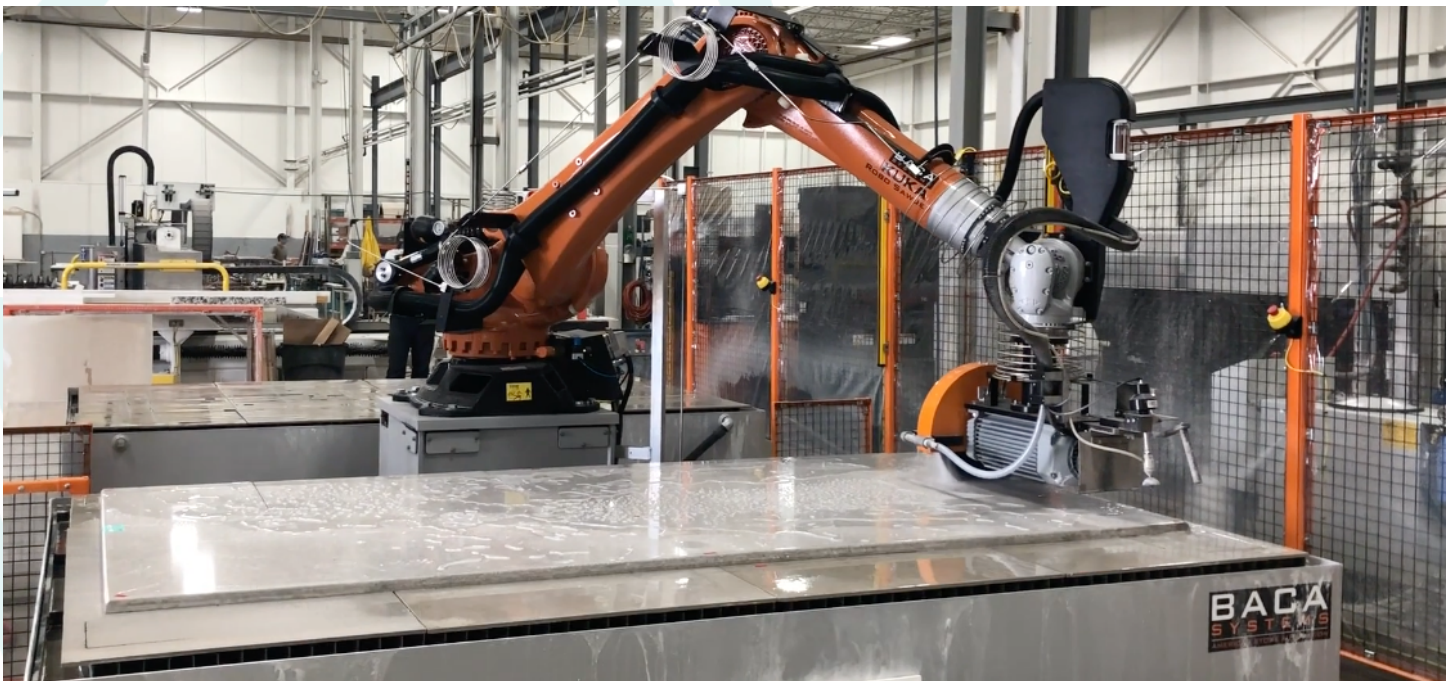
### Project requirements:

- 1) Increase cutting speed on Baca Systems Robo SawJet on Dekton™ & Quartz
- 2) Cleaner cuts and less blowouts.
- 3) Directly dose the Robo SawJet with S-Complex™
- 4) Test compatibility with the recycled water system.
- 5) Optimize blade for high-speed cutting

### CHEMFORCE Solution:

The Robo SawJet water feed was directly dosed with 1% S-Complex™, with a Dema inline injector dosing pump.

- 1) Cutting Dekton™ with Fresh water= 75 inches/Min (Typical cutting speed)  
Cutting Dekton™ with S-Complex™= 250.4 inches/Min  
Increase in production cutting Dekton™ by a factor of 3.3  
Cutting Quartz with Fresh water= 112 inches/Min  
Cutting Quartz with S-Complex™= 250.4 inches/Min  
Increase in production cutting Quartz by a factor of 2.2
- 2) Cleaner cuts on Dekton™ and Quartz.
- 3) S-Complex™ did not affect the recycling/filtration system.



**CHEMFORCE**

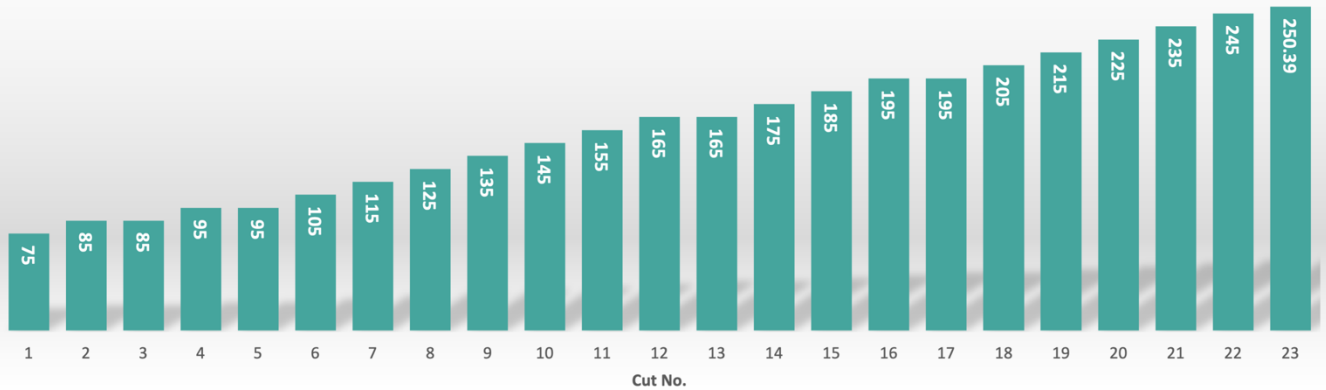
# S-Complex™

- + Improved productivity by around 300%
- + Cleaner cuts, less chipping



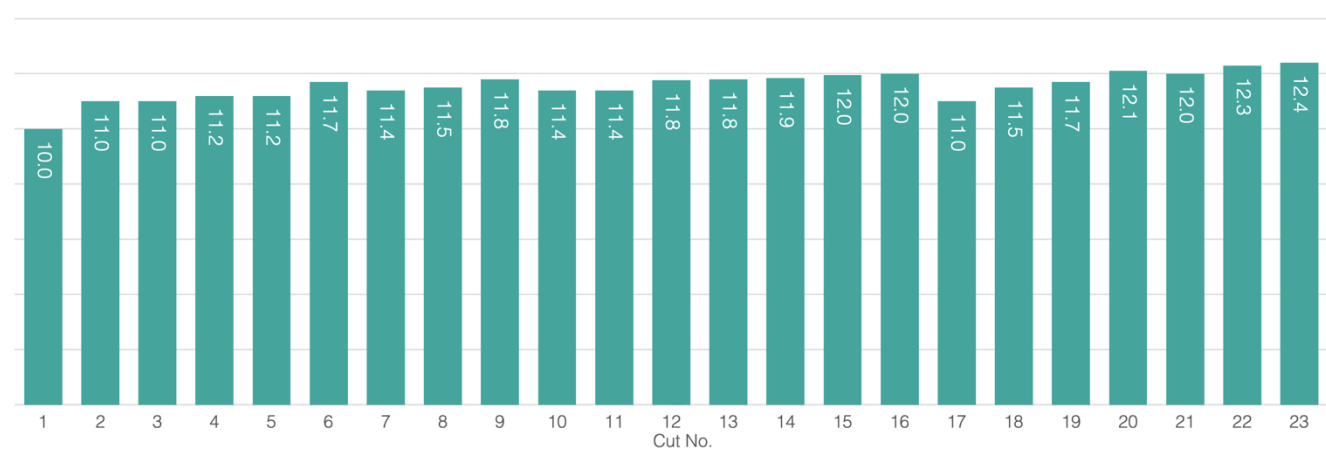
### Hard Rock S-Complex™ Trial cutting Dekton™

Inches per minute

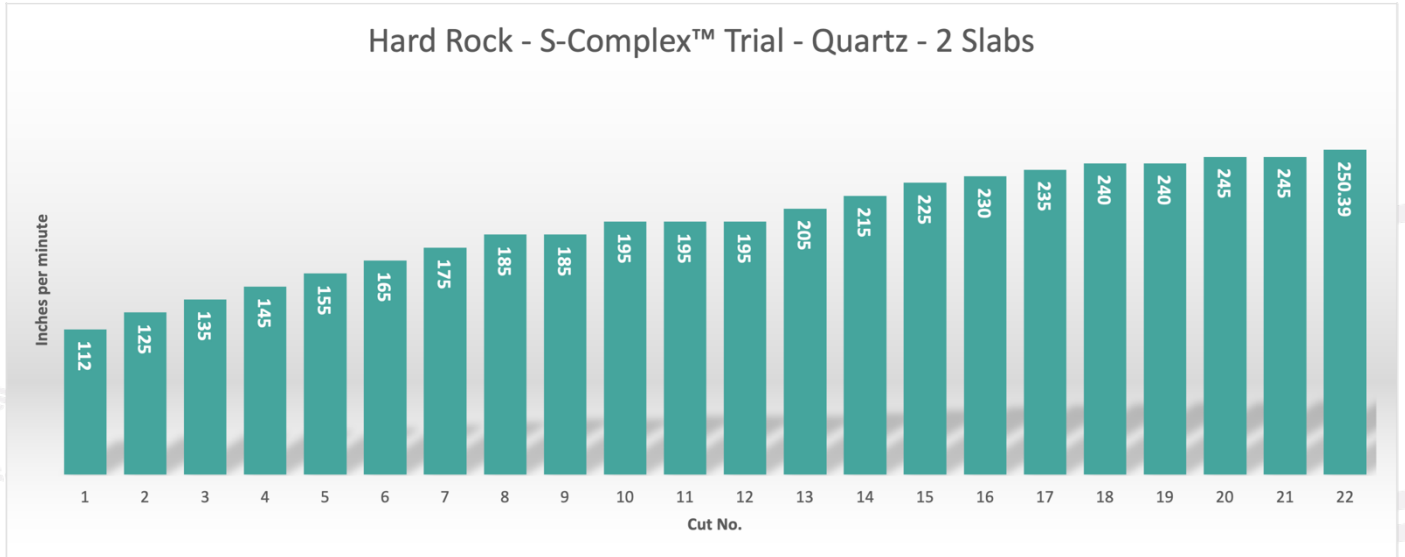


### Hard Rock S-Complex™ Trial cutting Dekton™ - Amps per cut

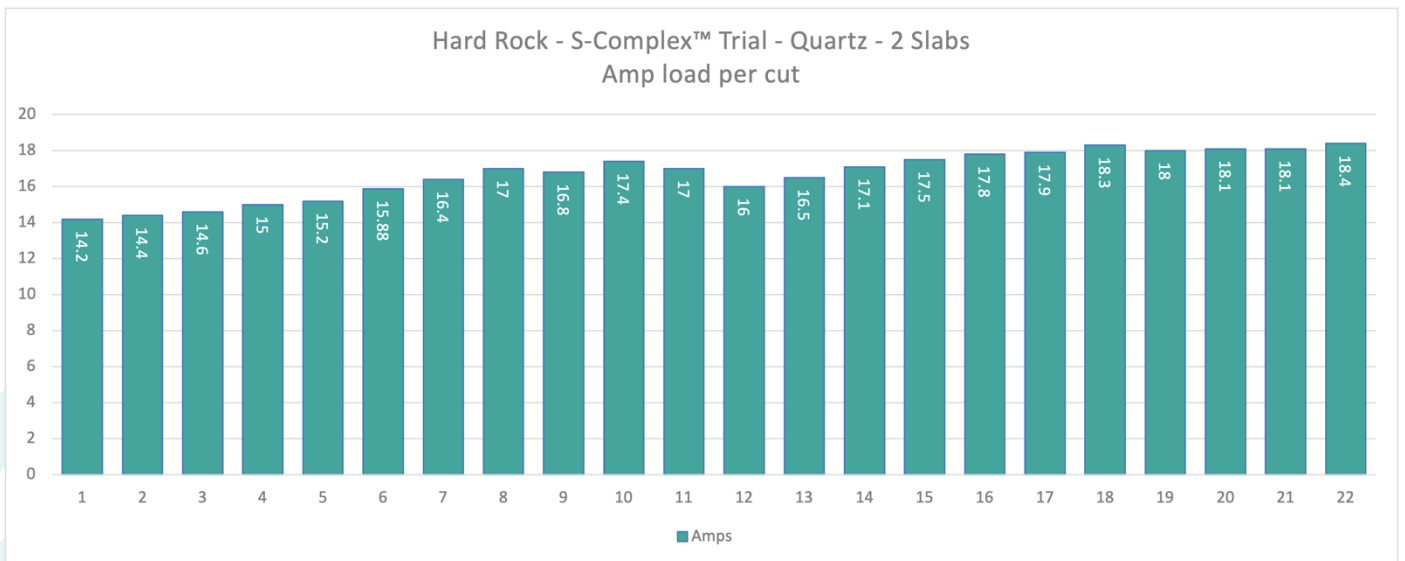
Amps



Note: There is very little increase in the load on the system as the cutting speed significantly increases to the highest setting on the machine.



Note: Cuts 1 to 11 are on the first slab and 12 to 22 are on the second slab



Note: The Amps are higher than seen on the Dekton™, although we are still able to achieve the maximum cutting speed of the saw with no chipping or excessive load on the robot.