

# 1 FIBRE CEMENT CUTTING

Material:

Fiber Cement Boards - Made of Cement Products with Different Compositions Depending on End Product Requirement

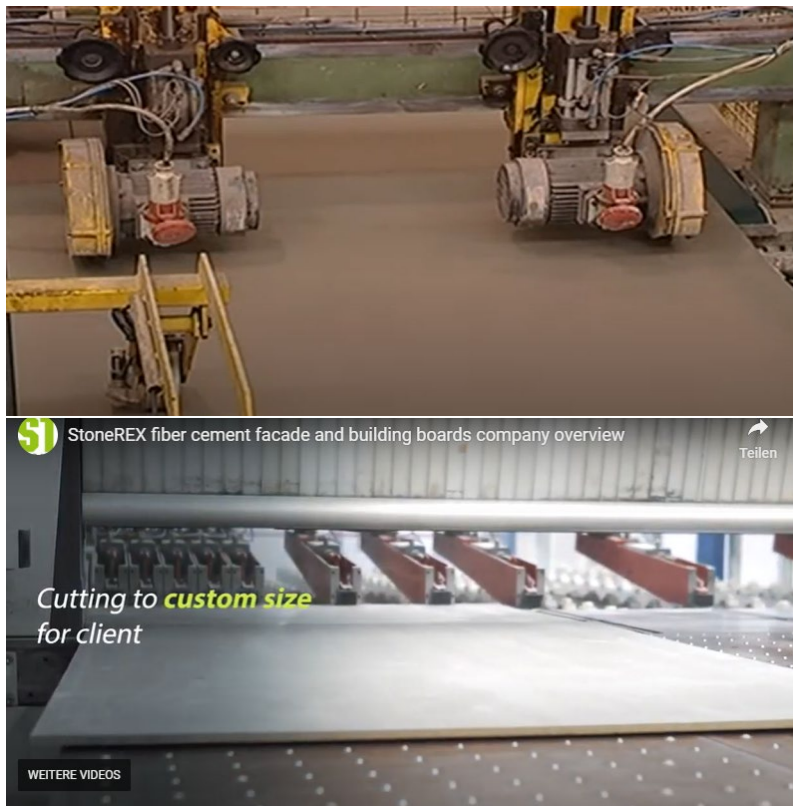
End Product:

- Partition Boards / Walls
- Skirtings / House Borders
- Decorative Boards / Planks
- Wall Cladding / Fassade
- Flooring
- Panels for Elevation of Buildings
- Alternate of Wood for Exterior of Buildings

## 2 CONVENTIONAL CUTTING WITH ROTATING CARBIDE BLADES – CHALLENGES

1. Knives/Blades need to be monitored in its performance and replaced – production needs to stop
2. Production line needs to stop when trimming the board to length
3. Rotating blades tend to lift the “good material”, which then bulbs up
4. Blades can only cut linear – and so cannot cut shapes (in case required for larger orders)

Samples of blade cutting applications in the field (pictures contain hyperlinks to original videos)





Fiber Cement Board Machine

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### **3 WATERJET CUTTING FIBER CEMENT BOARDS – BENEFITS**

1. Waterjet always creates a fresh “knife edge” for clean cut
2. Waterjet cross cutter allows for continuous cutting even when trimming the boards to length
3. Waterjet represents proven & reliable 24/7 cutting technology via redundant via paired / redundant cutting heads setup
4. No production stops needed because of blades replacements
5. Material is not pulled along or bulged because the tool makes vertical but no circular movement (such as the rotating blade)
6. Waterjet helps reducing dust particles in the production environment
7. Flexible & precise customized shape cutting possible
8. Waterjet can cut both dry and wet boards
9. Waterjet helps increasing production output

As for the fiber cement application, please find below main highlights regarding the merits of using WJ technology:

- Uniform surface and even edge quality across all thicknesses in the production line. excels.
- All common thicknesses are possible to cut. FCBs are manufactured in thickness ranging in 6, 8, 10, 12, 14, 16, 18, 20, 25, 30 and 40 mm. Most popular thicknesses are 8 to 25 mm (thicknesses in USA may vary due to units of measure) This is not possible with mechanical circular saws as they have thickness limitation where WJ excels.
- Minimal downtime/higher uptime and no sharpening cost of dull blades and no future replacement as well
- No fiber protrusion at all using WJ across the whole production line

## **4 WATERJET CUTTING FIBER CEMENT BOARDS – TYPICAL INSTALLATIONS**

As for the application information with 1x 50 HP:

- Higher initial capital investment (pump, retrofitting of cutting heads plus piping and installation materials)
- Maximum pressure is 3,200 bar or approximately 45ksi
- 5x cutting stations using 0.17 mm (0.007”) or 0.15 mm (0.006”) orifices as most common.
- For one single line, the number of cutting heads running concurrently is 3x
- Annual maintenance for 3-shifts 24/7 is roughly 17-20k€