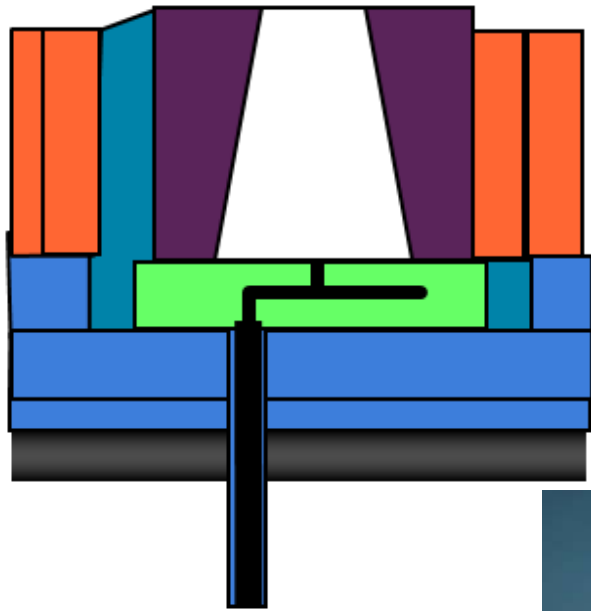


Before 1999:

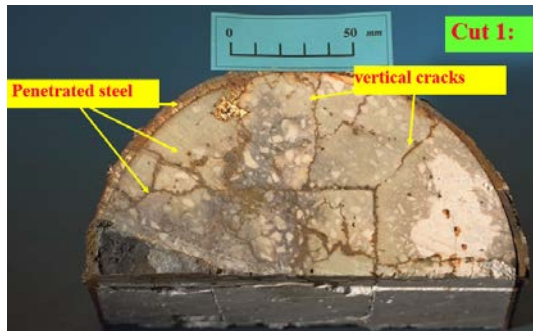
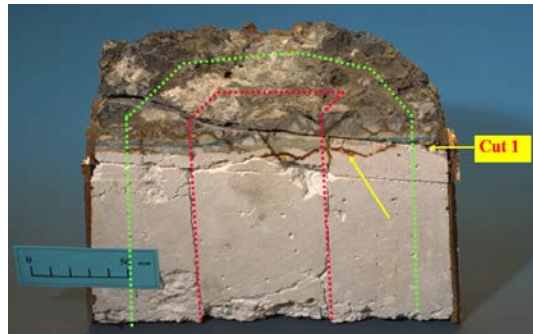
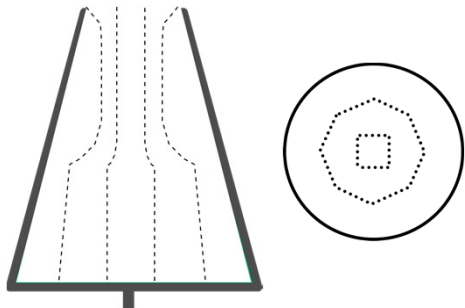


Bottom life ~ 32 heats

Stirring station

1 purging plug

Purging ~ 12-25 heats



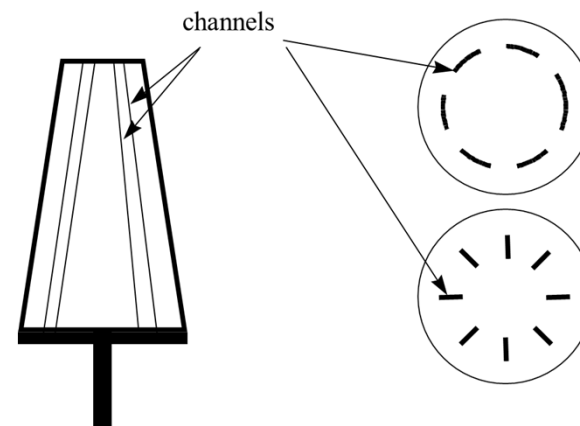
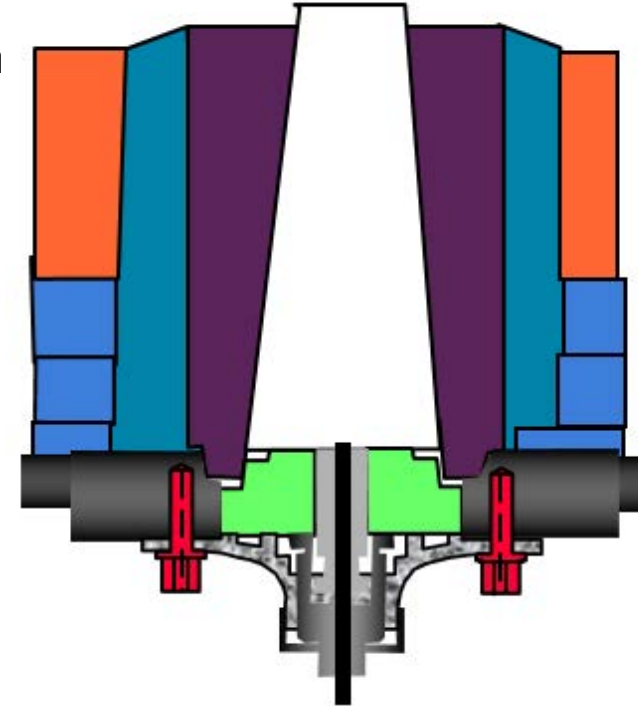
After 1999:

New refractory design

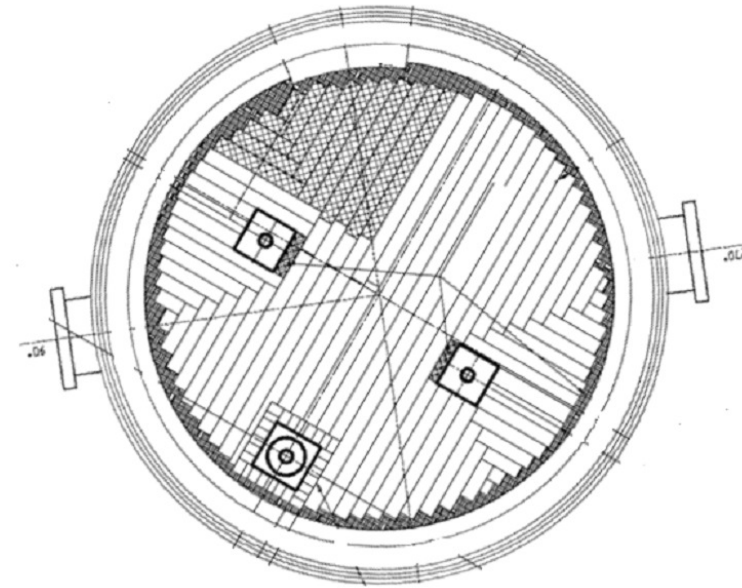
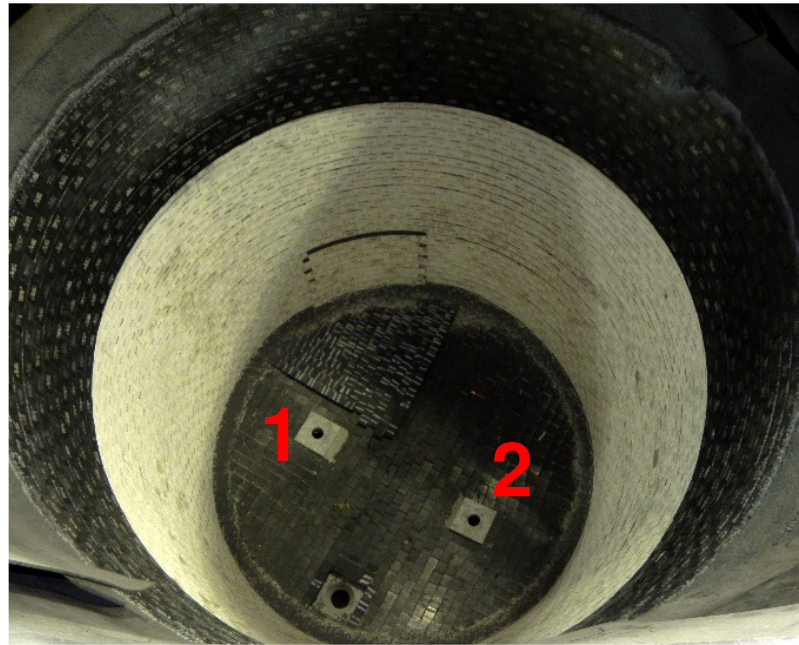
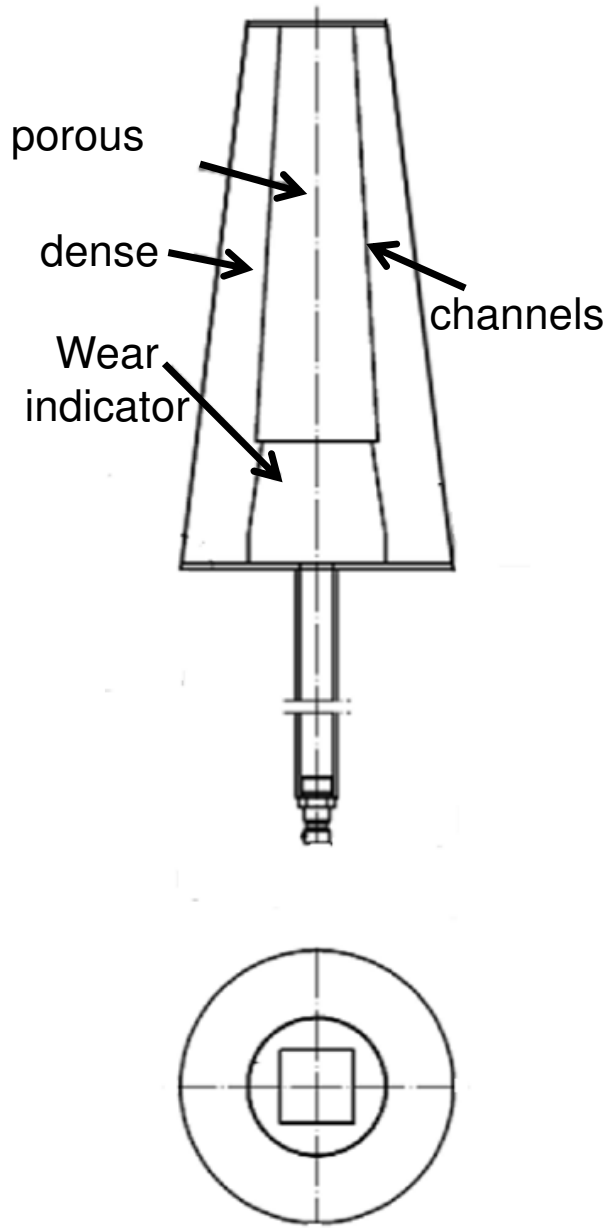
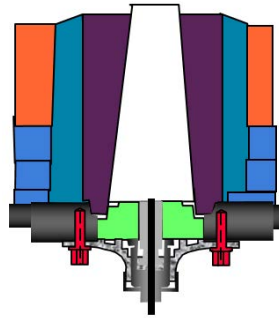
+ Ladle furnace

2 purging plugs

100% purging

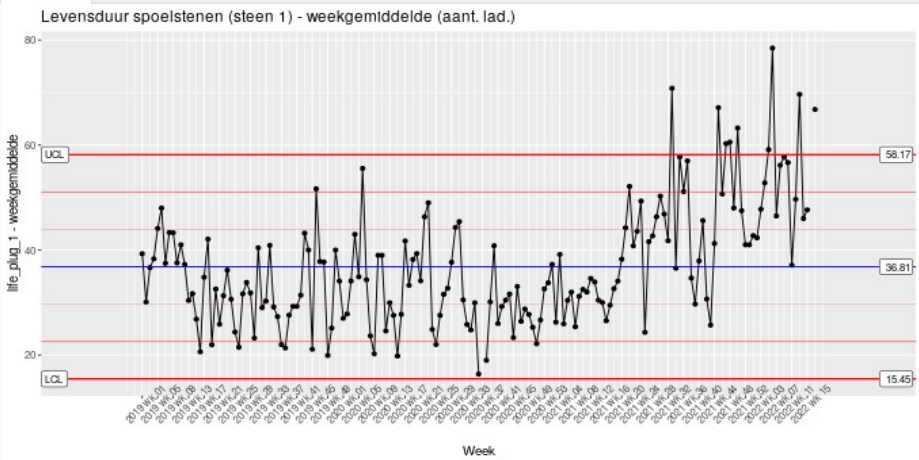


Current positions / Hybrid design

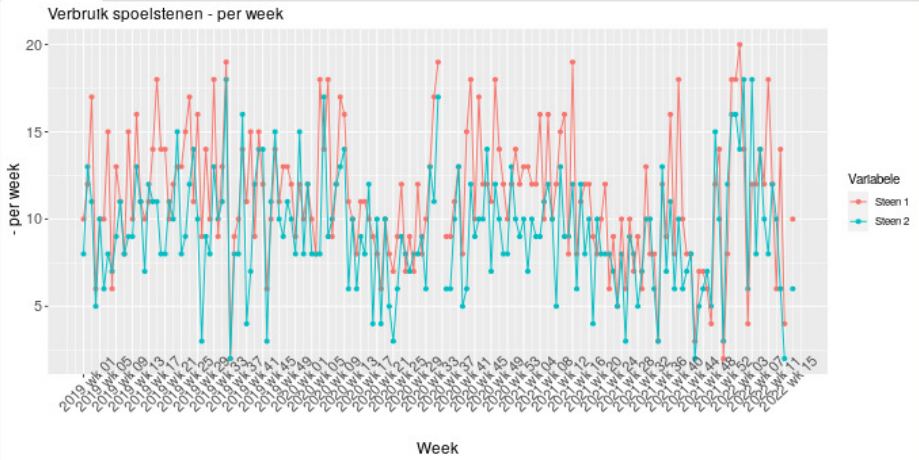


Levensduur spoelstenen staalpan

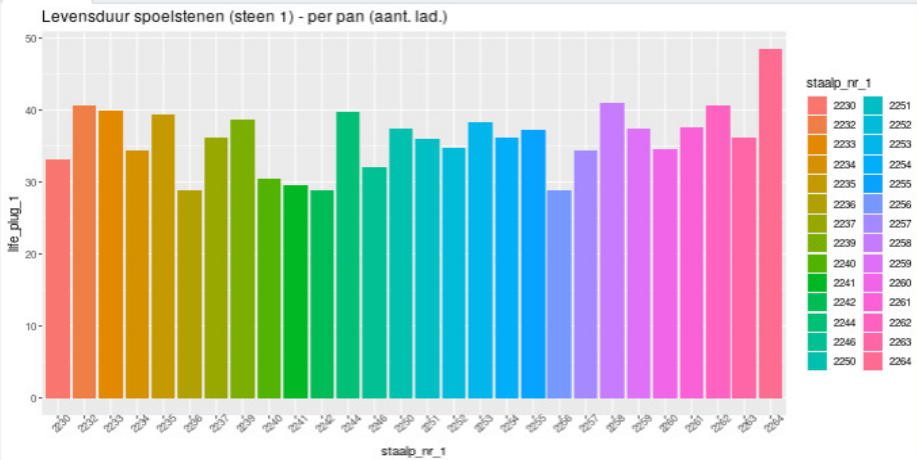
Steen 1 Steen 2



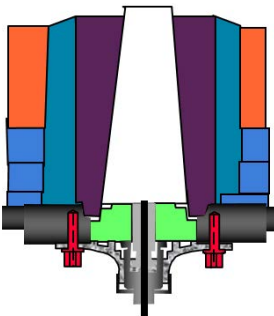
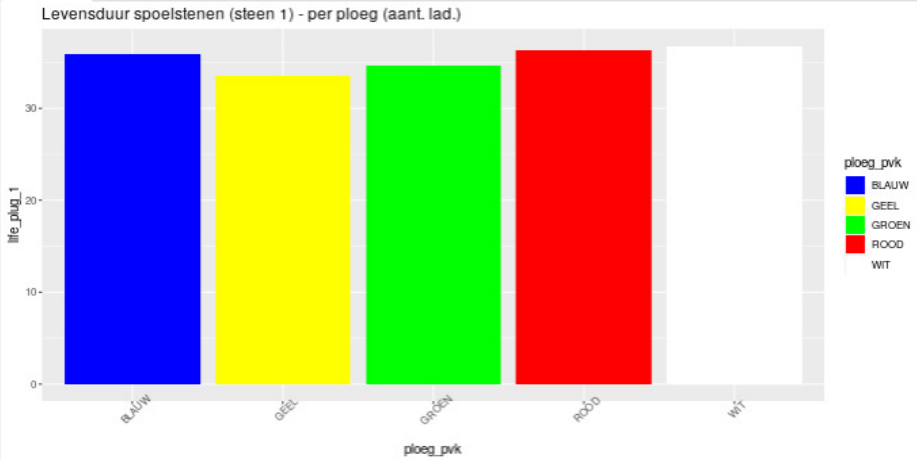
Per week



Steen 1 Steen 2



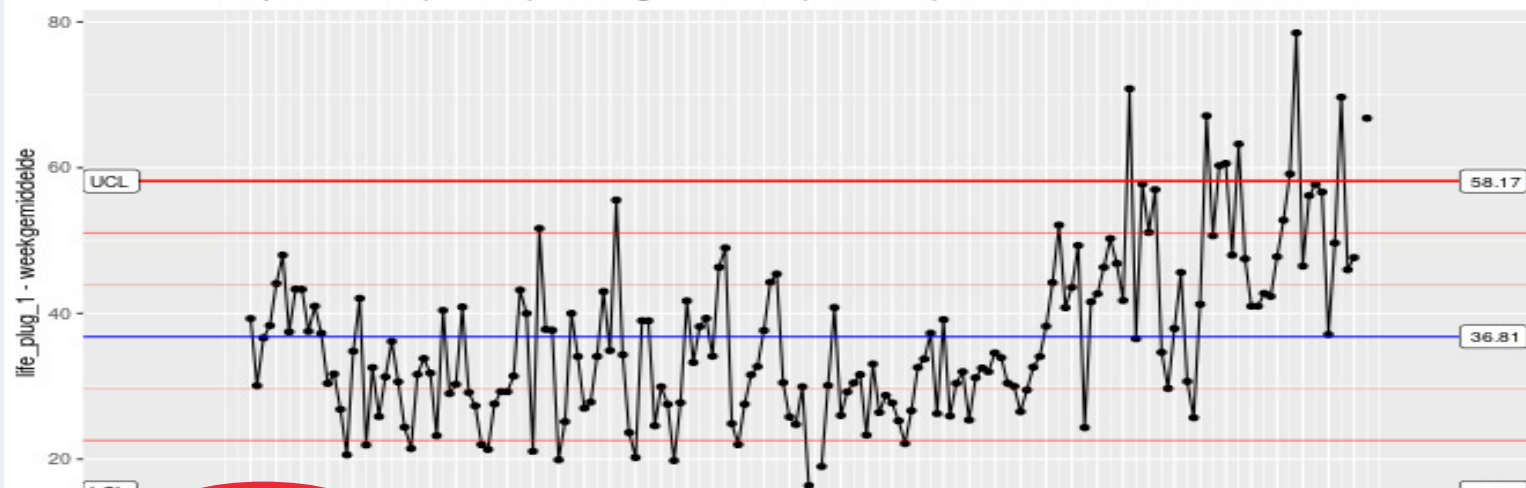
Steen 1 Steen 2



Stein 1

Stein 2

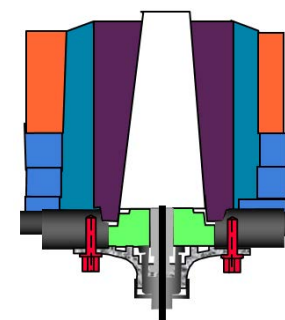
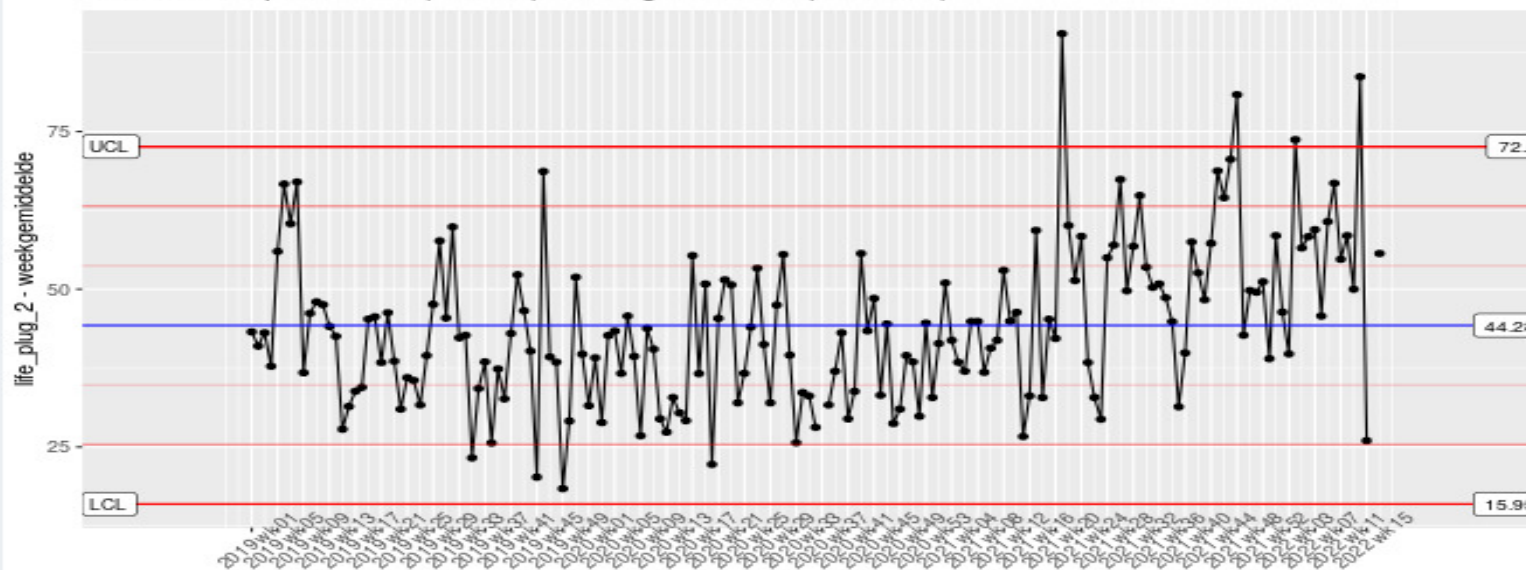
Levensduur spoelstenen (steen 1) - weekgemiddelde (aant. lad.)



Stein 1

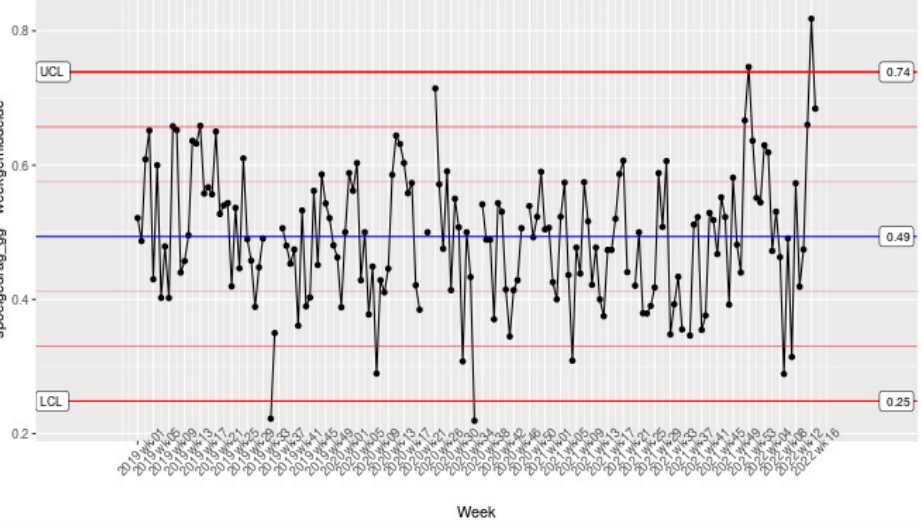
Stein 2

Levensduur spoelstenen (steen 2) - weekgemiddelde (aant. lad.)



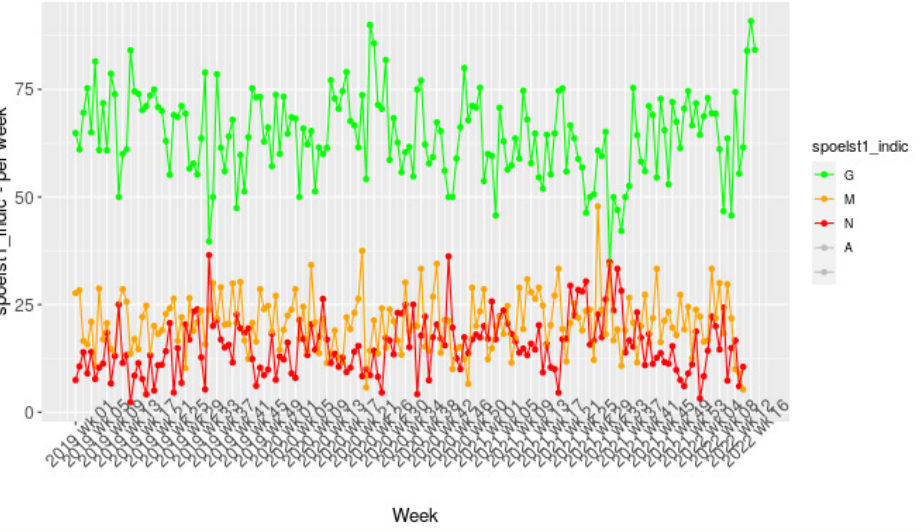
QCC per week

Fractie (%) ladingen met 2 goed spoelende stenen bij PO - weekgemiddelde



Per week

spoelgedrag steen 1 bij panoven - per week



Steen 1 Steen 2

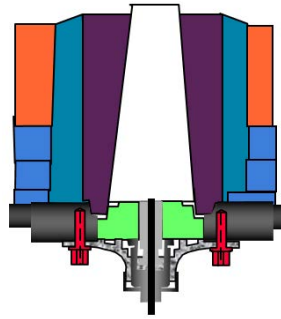
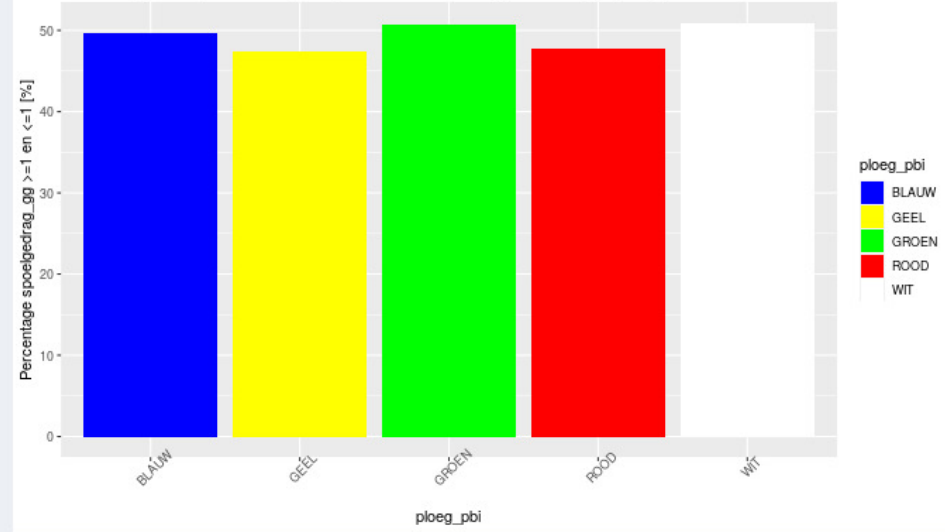
Spoelgedrag steen 1 bij panoven - per kwaliteit



Perc G-G per ploeg

Scores per ploeg

Percentage ladingen met 2 goed spoelende stenen bij panoven - per ploeg

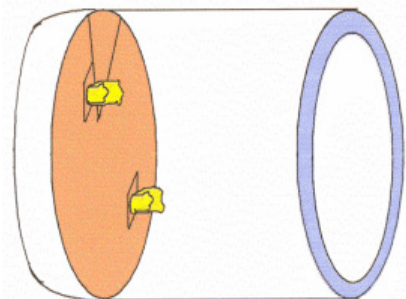


Check/replacement

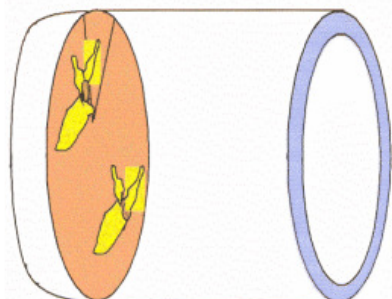
Check a.s.a.p. after arrival at the tilting stand

Check with nitrogen gas or natural gas

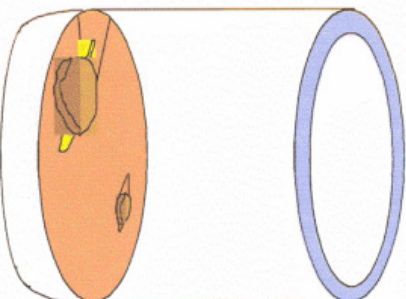
Only flames in the plug (code 1-5)



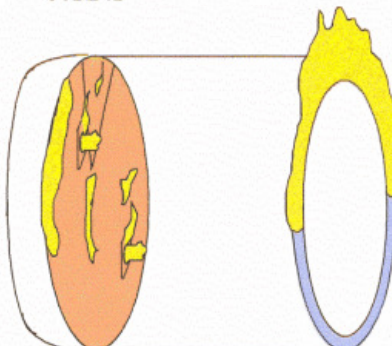
CODE 01



CODE 02



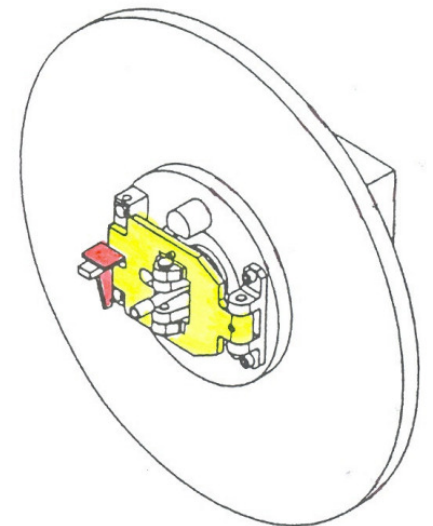
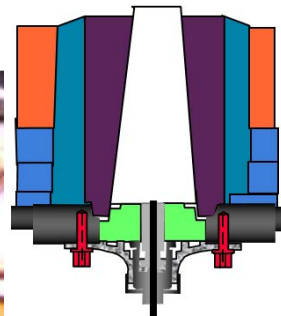
CODE 03

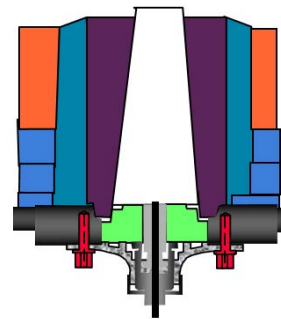
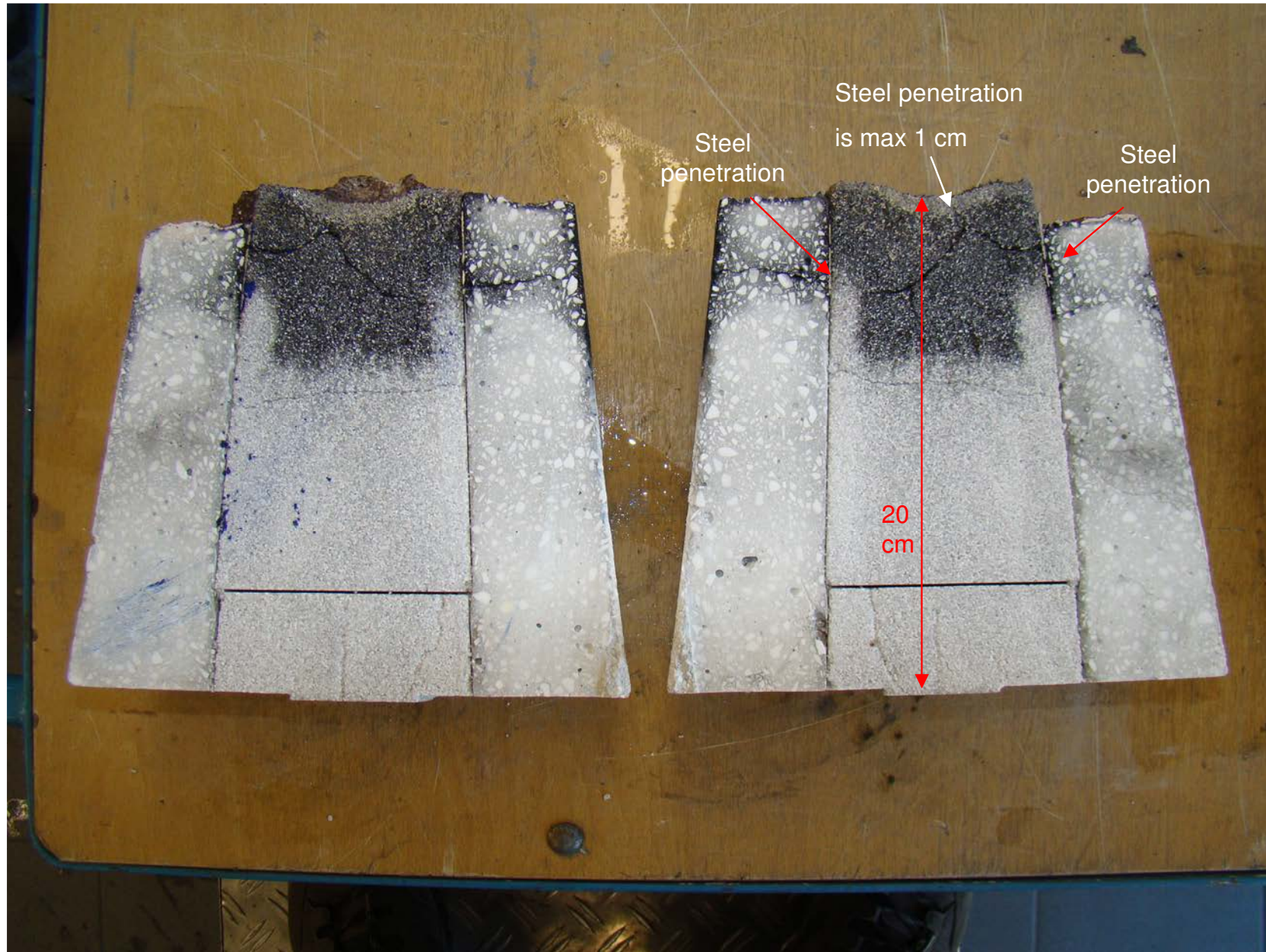


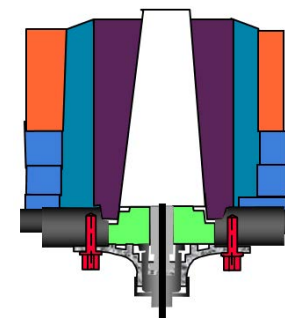
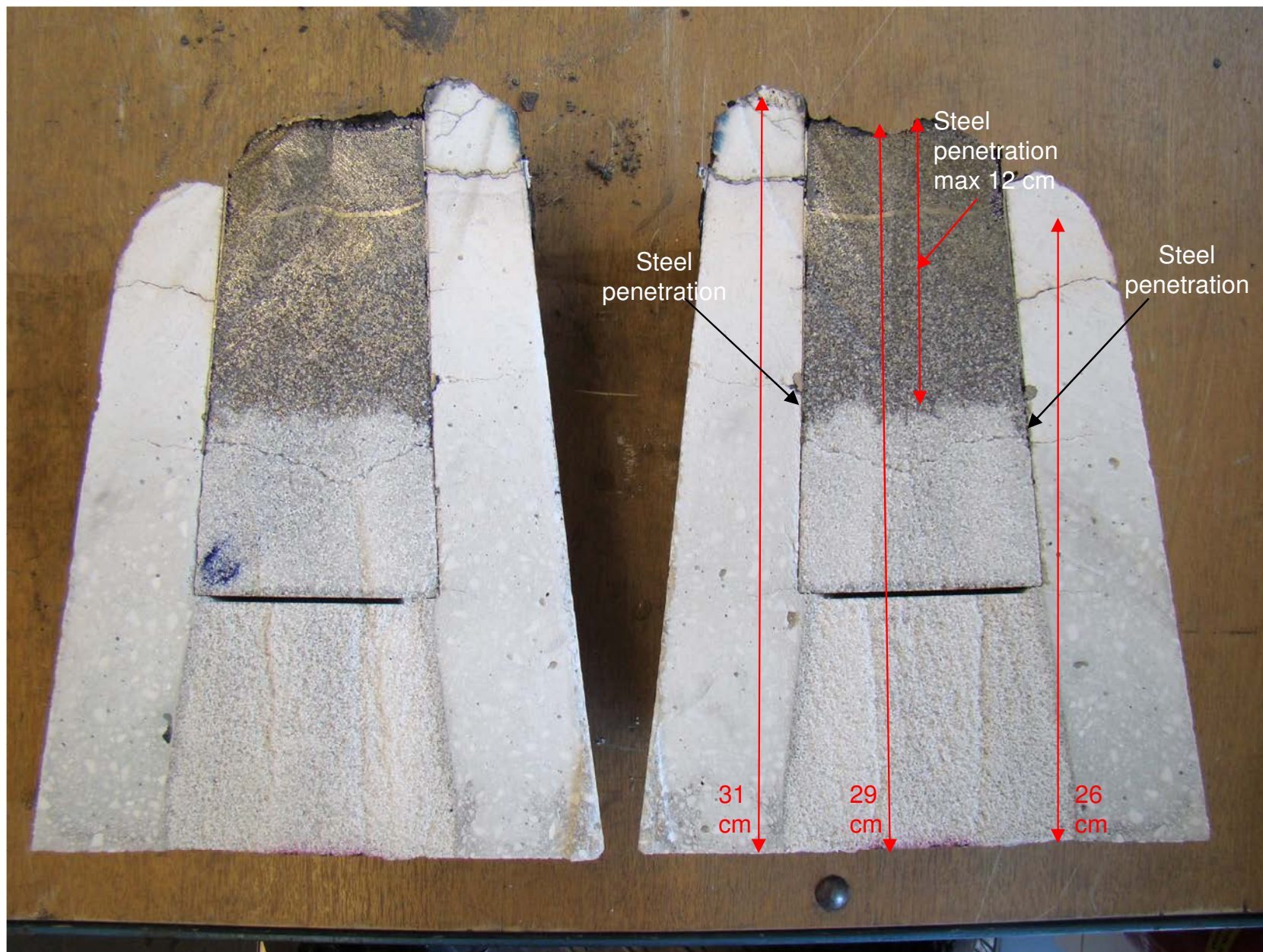
CODE 04



3 mm of mortar



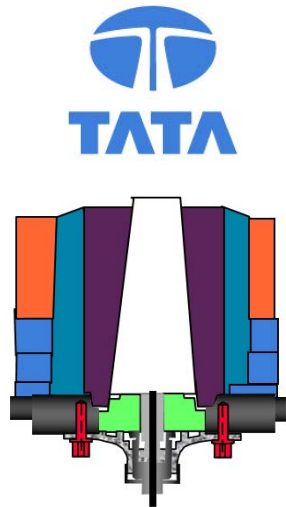
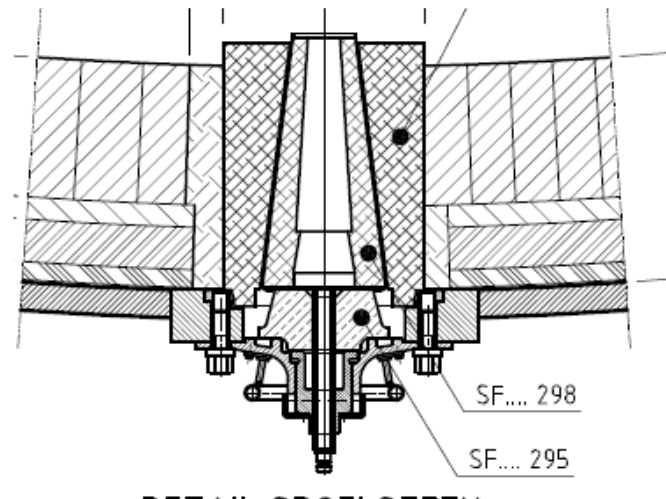
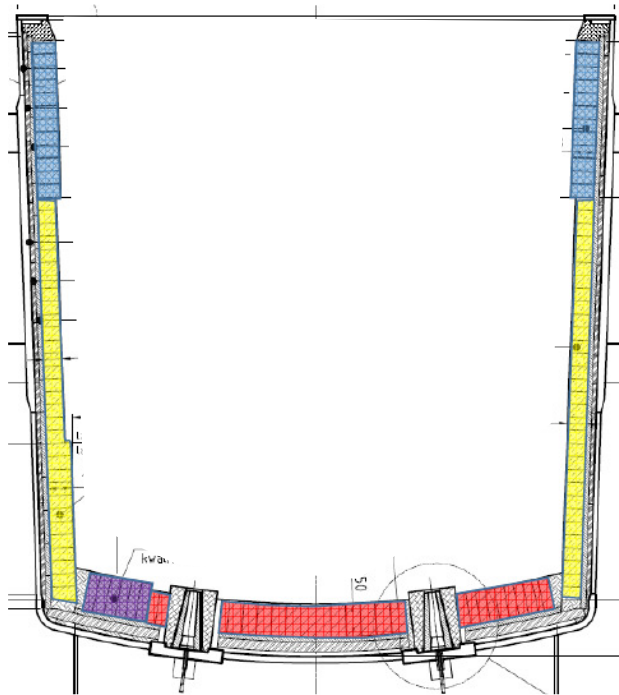




Example 2: Breakout through the bottom of the steel ladle

- During tapping under the converter a breakout through the purging system (approximately after 2-4 minutes)
- Before this heat, a new purging plug was installed

What happened?



Do you have any questions?

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