Supplement of

Development and testing of a tool for the decontamination of corners and inner edges on concrete surfaces

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1. State of the Art

- Decontamination of corners, inner edges, gaps and other geometrical discontinuities is a huge challenge because of the lack of suitable tools.
- These corners and geometrical discontinuities are difficult to access or are located overhead, for example with inner edges and corners on ceilings.
- The combination of using heavy hand operated tools with exhaust systems, on difficult to access areas as well as the forces and vibration of the tools, make the task of decontamination a burden and cause the operators additional physical stress.

2. Aim of the Project

- Development of an innovative, semi-automated demonstrator for dry-mechanical decontamination of corners, edges and geometrical discontinuities in nuclear facilities.
- The scientific investigation of experimentally collected performance parameters, such as feed rate, forces and torques, removal depth per operation, surface roughness, vibrations, ...

3. Development of the prototypes

- Figures 1, 2, 3: Currently used tools: A. needle gun (MBM type 34-5 [5]); B. milling tool (Svens CoS) [2] and C. concrete grinder (Svens A5) [5] (from left to right)

4. Test bench

- Figures 4: Test bench (left) and tool holder with prototype B (right)

5. Test results

- Figures 5, 6, 7: Reaction force in relation of time, feed rate and prototypes (prototype A: left, prototype B: right) with 5 mm removal depth

Project Partner

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