

Earthquake strengthening School Ried - Muotathal

Strengthening of masonry walls

Project

The school Ried in Muotathal was built in 1994 in masonry and has according to today's building codes an insufficient seismic resistance.

Two load-bearing walls had too low normal forces to absorb the resulting shear forces from the earthquake loads and therefore needed a reinforcement.

For structural reasons, it was necessary to attach the reinforcement on the inside, respectively in the school rooms. In addition to this boundary condition, the ceiling of the shelter below the schoolhouse was not allowed to drill through.



Solution

The two masonry walls were posttensioned each with four StressHead-CarboStress systems over two floors. The core drillings in the ceiling between the two floors were afterwards refilled for acoustic isolation.

In the area of the shelter ceiling, „Schweizerriegel“ were used as special anchors. As a result, the 160kN per plate are anchored into the structure without drilling through the ceiling, and the sealing requirements of the concrete is secured.

The plates are subsequently covered and are no longer visible in the room.



Facts

Object:	School Ried
Village:	Muotathal, Schwyz
Construction year:	1994
Strengthening year:	Juli 2019
Strengthening system:	StressHead-CarboStress
Number of systems:	8

Involved parties

Owner:	Gemeinde Muotathal
Project manager:	IMHOF Planung & Bauleitung GmbH
Engineer:	Bigler AG
Contractor:	Diamantbohr AG

STRESSHEAD AG

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