REF A04 SLAB STRENGTHENING OF INDUSTRIAL BUILDING, GERMANY

PROJECT	SCHOTT SOLAR JENA AXL 33 – INDUSTRIAL BUILDING
LOCATION	Jena, Germany
CLIENT	Schott Solar
ENGINEER	HI Bauprojekt GmbH
IMPLEMENTATION	2007

Applications **Slab strengthening (overlay)**

Design **Hilti method**

Hardware **HIT-RE 500, HCC-K 10x200 mm, TE-C3X Drill bits**

Software **PROFIS Engineering**

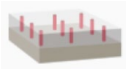
Services **Design and Engineering support by Hilti**

CHALLENGES

- Brownfield Project requiring new production facilities
- Old industrial RC building built in 1940s
- The 16 cm thick existing ribbed-reinforced RC slab was insufficient in capacity

HILTI TOTAL SOLUTION

- ✓ Slab strengthening instead of dismantling of the existing slab
- ✓ Faster construction of the overlay using qualified and efficient shear-connectors HCC-K + HIT-RE 500
- ✓ Designed using Hilti method



LOAD / CONDITIONS: **Static / Old existing member**

PROJECT HIGHLIGHT **Cost savings of ~€700,000 for the client**

PROBLEM STATEMENT AND OBJECTIVES

The company Schott Solar in Jena planned to install new production facilities.

These needed to carry the **new heavy forklift traffic loading on the floor slabs** in the 3-storey industrial building, which was **built in the 1940s**.

The load-bearing capacity of the 16 cm thick ribbed-reinforced concrete slabs was not sufficient.

Hence, the strengthening of the floor slabs was planned, designed, and executed

DESIGN APPROACH

In cooperation with the responsible project manager and structural engineer, the Hilti team worked on the requirement for an efficient and **fast solution since slab dismantling would have involved more cost and time.**

Hilti developed a solution for reinforcing the slab with concrete, which avoided dismantling.

The 3500 m2 slab area was **reinforced with Hilti's HCC-K shear connectors.**

SOLUTION AND FINAL OUTCOME

HIT-RE 500 adhesive mortar was used for safely securing the shear connectors on the existing floor slabs.

Hilti drill bits were used for **faster preparation of boreholes**.

This turned out to be the **most economical solution since the floor slabs were not dismantled** and then rebuilt. This led to Cost savings of ~€700,000 for the client.

Application : Slab strengthening

Efficient shear-connectors – HCC-K

Hilti method for optimized embedment