Structural Strengthening with Sika® CarboDur® Composites

Structuring System Requirements

**Structural Requirements**
- Static loading
- Dynamic loading
- Crack bridging
- Creep
- Durability

When the working load is applied, the plates absorb the tensile forces proportionally with the steel reinforcement. An unused load-bearing reserve must be available in the concrete compression zone of the existing structure. The adhesive layer must be capable of leveling out any stress peaks. The better the leveling, the greater is the proportion of load-transmitting adhesive surface.

**Requirements under Environmental Influences**
- Temperature
- Moisture
- Frost
- Freeze/thaw
- Corrosion
- UV radiation

Corrosion resistance is an important factor in long life. The Sika CarboDur plates have high chemical resistance to the pollutants normally occurring on structures. In particular, there is no risk of underrusting.

Walls Beams Access openings Masonry walls Floors Columns Decks

**Sika® CarboDur® Plates**

**Advantages**
- Defined performance properties
- Range of dimensions – optimum design
- Choice of modulus
- Factory prepared for use
- Low temperature application with heated plates
- Elevated temperature in service grade
- Can be prestressed
- Very high strength

**SikaWrap® Fabrics**
*(Glass, Carbon, Hybrid) Wet/Dry Application*

**Advantages**
- Shear strengthening
- Impact and blast resistance
- Very flexible for details
- Easy on circular and square sections
- High strength
- Carbon fiber, glass and hybrid fabrics available

Application of SikaWrap® Fabric System for impact resistance on a bridge column

Nobody

Strengthening the reinforced concrete slab with the Sika® CarboDur® Plate System (Sikadur-30 adhesive and Sika® CarboDur® plates)