



# STRUCTURAL STRENGTHENING SEISMIC UPGRADING & EARTHQUAKE RECOVERY

BUILDING TRUST



# SIKA TECHNOLOGIES FOR SEISMIC UPGRADING & SUPPORTING EARTHQUAKE RECOVERY

## ENGINEERING

### NO DAMAGE

### RETROFITTING

#### PROBLEMS

- Increased loading
- Inadequate design or construction
- Strengthening against potentially increased shear forces
- Strengthening to meet current design standards for seismic action
- General refurbishment and seismic upgrade

#### SIKA SOLUTIONS

##### Anchoring

- Bonding steel anchors and additional reinforcement with Sika AnchorFix – and Sikadur range of structural bonding systems

##### Stiffening

- Sika spray applied concrete systems
- Installation of infill panels or Sikadur resin bonded steel bracings

##### Strengthening

- Structural strengthening with Sika CarboDur plates, Sika CarboShear L plates and SikaWrap fabrics
- Increased ductility with Sika CarboDur plates, Sika CarboShear L plates and SikaWrap fabrics
- Prestressed Sika CarboDur systems

### MINOR DAMAGE

### REPAIR

#### PROBLEMS

- Spalling concrete
- Cracks in concrete, infill walls and masonry

#### SIKA SOLUTIONS

##### Spalling Concrete

Repair and corrosion protection of steel in areas of damaged concrete with Sika MonoTop hand or spray applied repair mortars

##### Surface Finishing

Surface restoration, reprofiling and aesthetic improvement with Sika MonoTop levelling and reprofiling mortars plus Sikagard® protective coatings

##### Crack Injection

- Sika cementitious injection systems for the stabilization of brick walls and masonry
- Sealing of cracks in concrete with the Sikadur range of structural resin injection systems



# ASSESSMENT

## STRUCTURAL DAMAGE

### STRENGTHENING

#### PROBLEMS

- Cracks in concrete and masonry walls
- Unacceptable deflections
- Steel yielding
- Local reinforcement buckling

#### SIKA SOLUTIONS

##### Crack Injection

Structural bonding and sealing of cracked concrete and masonry with the Sikadur range of structural resin injection systems

##### Anchoring

Bonding steel anchors and additional reinforcement with the Sika AnchorFix and Sikadur ranges of structural resin bonding systems

##### Stiffening

- Sika spray applied concrete systems
- Installation of infill panels with Sikadur resin bonded steel bracings

##### Strengthening

- Structural strengthening with Sika CarboDur plates, Sika CarboShear L plates and SikaWrap fabrics
- Increased ductility with Sika CarboDur plates, Sika CarboShear L plates and SikaWrap fabrics
- Prestressed Sika CarboDur systems



## EXCESSIVE DAMAGE

### DEMOLITION/NEW CONSTRUCTION

#### PROBLEMS

Excessive structural damage

#### SIKA SOLUTIONS

- Concrete technology (Sika ViscoCrete)
- Grouting/anchoring technology (SikaGrout Sika AnchorFix)
- Waterproofing systems (Sikaplan, Sika Waterbars)
- Sealing and bonding technology (Sikaflex, SikaBond, Sikadur)
- Flooring systems (Sikafloor)
- Roofing systems (Sarnafil, SikaRoof MTC)
- Segmental bridge adhesives (Sika CableGrout, Sikadur SBA)
- Steel corrosion (Icosit Sika FerroGard)
- Application equipment (Aliva)



# ALSO AVAILABLE FROM SIKA



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## WHO WE ARE

Sika AG, Switzerland, is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, façades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting loadbearing structures. Sika's product lines feature high quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

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