

**CREATING SOLUTIONS TOGETHER**

# **VSL Construction Solutions (Pty) Ltd**



*VSL Construction Solutions (Pty) Ltd uses the world renowned VSL systems and components for all its post-tensioning, retained earth and heavy lifting works. With a local team of specialised engineers and experts, combined with readily available international expertise, VSL Construction Solutions carry our complex and innovative engineering projects throughout Africa and Indian Ocean islands.*

Being part of the VSL worldwide network, which has over 50 years experience, allows VSL to interact with over 900 engineers worldwide, ensuring that our clients get the most innovative and cost effective engineering solutions available.

## **POST-TENSIONING**

### **Post-tensioning and pre-stressing of civil structures**



**VSL's professional services comprise but are not limited to:**

- Design and detailing of all components
- Estimating and proposing alternatives
- Supply and installing all components, including tensioning and grouting
- Providing documentation for engineer's approval.

**VSL Construction Solutions (Pty) Ltd uses the VSL System and components and offer the following specialised services:**

- Post-tensioning of building structures
- Post-tensioning and pre-stressing of civil structures
- Post-tensioning of segmental bridge erection
- Post-tensioning of incremental bridge construction
- Retained earth
- Structural concrete repair and strengthening
- Heavy lifting and bridge jacking
- Post-tensioned ground anchors and lateral support
- Stay cables
- VSL Bars.

### **Post-tensioning of building structures**



**VSL Construction Solutions (Pty) Ltd uses the VSL systems and components when post-tensioning concrete slabs, beams and other structural elements required in buildings.**

- Design and detailing of all components
- Estimating and proposing alternatives
- Supply and installing all components, including tensioning and grouting
- Supply and fixing of supplementary reinforcing
- Tensioning of cables
- Grouting of anchor recesses
- Providing documentation for engineer's approval.

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### Structural Concrete Repair and Strengthening

The need for repair and strengthening may arise from deterioration, changes in use, and changes in the relevant design codes, structural defects or seismic conditions. VSL uses the latest technologies to develop innovative strategies to restore or add load-carrying capacity to bridges, buildings, parking facilities, silos and other structures.



### Concrete Scanning

- Advanced 3D scanning using the new Hilti PS1000
- Ultrasonic pulse velocity
- Pulse echo for void detection
- Proceq Rebar mapping and cover surveys
- Trained scanning personnel.



### Strengthening systems and services included:

- Passive strengthening systems:
  - Enlarging the structural members
  - Steel plate bonding
  - Carbon fibre reinforced polymer (CFRP) composite systems
- Beam, slab and silo strengthening
- In-house carbon fibre design
- Laminates for tension strengthening
- Fabric for shear strengthening.

### Repair systems and services include:

- Concrete and structural repairs including:
  - Crack repair
  - Repair of concrete honeycombing, delamination and spalling
- Concrete fireproofing repairs
- Remedial anchors for pre-stressing tendons
- Reinforcement repair
- Expansion joint replacement
- Structural bearing replacement.

### Coring

- Trained personnel.

### VSL Heavy Lifting

The VSL Heavy Lifting System has been developed so as to provide safe and cost effective solutions for the lifting, lowering and horizontal movement of large and heavy loads. The flexibility of the system allows it to be applied to all types of structures such as bridge decks, silo roofs, mine headgears and power station turbines.

### VSL Cable Stays

- Multiple and parallel tendons
- Greased strand with tightly extruded plastic sheathing
- Outer thick-walled plastic stay pipe
- Factory fabricated anchorages

### VSL Soil and Rock Anchors

- Single or multiple cable anchors for stabilising of slopes, excavations and tunnelling
- VSL tensioning system
- VSL grouting systems

### VSL Retained Earth

VSL Retained Earth is an advanced and economical soil stabilisation system. The system utilises three components – reinforcing mesh, precast facing panels and backfill material to create a composite soil reinforcing system. Project cost savings of up to 50% are regularly realized as well as producing an aesthetically and environmentally pleasing structure.

For further information, please contact VSL Construction Solutions (Pty) Ltd

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