



# abil-strength®

## High performance strength enhancing 'Superpolymer' powder admixture for concrete

### Product Overview:

Supplied in ready-to-use powder form, **abil-strength®** is a non set-retarding high performance strength-enhancing 'Superpolymer' admixture that improves a wide range of performance characteristics in concrete, shotcrete and mortar in both the plastic and hardened states.

Together with dramatic improvements in flexural strength, tensile strength and mechanical strengths (including durability, impact resistance and abrasion resistance), **abil-strength®** also delivers significant increases in adhesion/bond strength - especially thin section and/or high strength, high performance flexible concrete.

Importantly, **abil-strengths®** unique 'Superpolymer' formulation is easily dispersed throughout the mix, delivering an increase in mix consistency and liquidity without the need for additional mixing water.

### Use With:

Suitable for use with most grades and classes of pre-mixed concrete, shotcrete, mortar mixes and other cement-bound and lime/gypsum-bound plaster building materials, **abil-strength®** is ideal for:

- Poured insitu concrete for buildings and structures
- Suspended slabs
- Pre-stressed and post-tensioned concrete components

- Precast components
- Cement wall rendering mortars and masonry mortars
- Lime/Gypsum-based plaster-bound building materials
- Cement-based paints, applied flooring screeds and wall finishes
- Low-water earth 'damp' consistency mixes
- Shotcrete for underground and above-ground application

### Benefits:

**abil-strength®** delivers a wide range of benefits, including:

- Significant increases in flexural and tensile strengths
- Dramatic increases in durability, impact resistance and abrasion resistance.
- Improves flowability/pumpability without the need for additional mix water
- Non-retarding formulation delivers normal set times
- Reduces rebound during shotcrete application
- Increases bond/adhesion between new and old concrete, as well as for renders and slurries over existing masonry and other cementitious substrates
- Improves colour development of cement pigments
- Highly dispersable formulation delivers consistent, high quality results

## Usage and Application:

**abil-strength**<sup>®</sup> is a free-flowing and non-caking 100% active solids powder admixture.

**abil-strength**<sup>®</sup> is packed in bio-degradable **Concrete Friendly**<sup>®</sup> paper sacks for easier, cleaner handling and easy addition to prepared premixed plastic concrete.

**abil-strength**<sup>®</sup> can be added at any stage of the mixing process, and even to previously prepared plastic concrete and mortar mixes for up to approximately 30 minutes (at a mix temperature of 21°C) after completion of normal mixing.

For optimum efficiency, it is preferable that **abil-strength**<sup>®</sup> is added last to the prepared, well-mixed wet plastic concrete or mortar mix with approximately 20% less water than usual for a given slump. The concrete or mortar mix is then mixed well again to ensure uniform distribution and dispersion within the mix.

## Dosage Rates:

Dosage rates for **abil-strength**<sup>®</sup> are variable, depending on the performance levels required for the specific mix design, however, recommended average dose is usually 10% **abil-strength** powder by weight of the total cementitious powder weight of the mix.

## Compatibility:

**abil-strength**<sup>®</sup> is suitable for use with all grade and classes of Portland cement-bound mixes and most grades and classes of shotcrete, mortar and other cement-bound and lime/gypsum-bound plaster building materials.

**abil-strength**<sup>®</sup> is also compatible with most other chemical admixtures for concrete, including oxide cement colours, normal water reducers,

superplasticisers/high-range water reducers, silica fume, ground slag, set retarders and accelerators.

Please contact Ability Building Chemicals Co for further information on specific mix designs.

## Packaging:

**abil-strength**<sup>®</sup> is supplied in 20kg bio-degradable **Concrete Friendly**<sup>®</sup> paper sacks.

## Storage:

For maximum shelf-life, **abil-strength**<sup>®</sup> should be stored in its original container, out of direct sunlight, in appropriate, dry conditions. When kept dry and stored under low humidity conditions in its original unopened container, **abil-strength**<sup>®</sup> has a storage shelf life in excess of 12 months.

## Precautions:

**abil-strength**<sup>®</sup> is a non-hazardous, non-flammable, non-explosive substance and is classed as a non-dangerous good, however, it is recommended that the following Personal Protective Equipment (PPE) and precautions are followed when handling and using the product:

- Wear full overalls, gloves safety goggles and a dust mask during mixing
- Avoid skin and eye contact
- Always wash hands before eating, drinking, smoking or using the toilet.

For further Health and Safety information, please refer to the **abil-strength**<sup>®</sup> Material Safety Data Sheet (MSDS) which is available from Ability Building Chemical Co or downloadable from our website.