



Cosmotron® DPU-AC

Non Set-Retarding, High Range Water Reducer and Superplasticising Admixture for concrete and mortar

Product Overview:

Supplied as a high purity, ready-to-use, 100% solids, flowable powder admixture, **Cosmotron® DPU-AC** is a high-range water reducing and superplasticising admixture suitable for use with cement, lime and plaster-bound composite products and materials.

Suitable for use in poured insitu, precast and/or machine-made masonry production applications (including those using 'semi-dry' compacted mixes) **Cosmotron® DPU-AC** improves a range of concrete performance characteristics - in both the plastic and hardened states - without retarding normal set times.

Use With:

Supplied in fully biodegradable paper sacks, **Cosmotron® DPU-AC** is suitable for use with virtually any type of concrete, grout or mortar mix, including:

- prepared wet plastic pre-mixed concrete
- shotcrete mixes
- cementitious engineering grouts
- semi-dry, 'earth damp' low water content concrete mixes (such as those used with high compactive forces, in the manufacture of concrete masonry, pavers, roofing tiles, garden furniture and 'ornamental' products)
- masonry mortars
- cement rendering mortars

Benefits:

Cosmotron® DPU-AC delivers a range of positive performance enhancements to concrete in both the plastic and hardened states, including:

- Reduced water content
- Increased rheology (flowability and pumpability)
- Non set retarding
- Reduced segregation
- Reduced shrinkage and creep
- Increased bond, durability, strength and abrasion resistance
- Reduced permeability to water and aqueous chemicals solutions (including chloride and sulphate solutions)
- Increases the intensity and colour saturation of integrally-coloured concrete mixes.

Usage and Application:

- For Premixed Concrete - **Cosmotron® DPU-AC** is typically added last to the freshly made plastic concrete having a suitable, lower than normal quantity of water to give a lower concrete slump. The addition of the biodegradable sacks of **Cosmotron® DPU-AC** admixture to the transit truck's barrel should be followed by a thorough remixing of the concrete to ensure that the admixture is evenly distributed throughout the mix and that the paper sacks have degraded completely. This causes increased flowability - and the slump rises accordingly.

- For All Other Mortar and Shotcrete Mixes - it is recommended that **Cosmotron® DPU-AC** is added to the mix at the selected dosage rate as the last item, followed by further thorough mixing to ensure full distribution of the admixture throughout the mix and complete degradation of the paper sacks.
- Mixes containing **Cosmotron® DPU-AC** admixture should be prepared using 20-25% less mix water.
- **Cosmotron® DPU-AC** can also be 'pre-dissolved' in mixing water for use with liquid admixture dispensing systems.
- **Cosmotron® DPU-AC** can be 're-dosed' into previously mixed plastic premixed concrete containing **Cosmotron® DPU-AC** if required to maintain slump and workability over an extended period of time.

Dosage Rates:

Cosmotron® DPU-AC is recommended for use with a starting point dosage rate of 0.4% by weight of total cementitious material content in concrete, shotcrete and mortar mixes, for most applications.

Compatibility:

Cosmotron® DPU-AC is compatible with virtually all other industry-recognised concrete admixtures including oxide powder pigment colourants.

Please contact Ability Building Chemicals Co for information on specific admixtures, products and mix designs.

Packaging:

Cosmotron® DPU-AC is available in 15kg **Concrete-Friendly®** fully-degradable paper sacks.

Storage:

For maximum shelf-life, **Cosmotron® DPU-AC** should be stored out of direct sunlight, off the ground, in not excessively high temperature and appropriate, dry conditions. **Cosmotron® DPU-AC** has a storage shelf-life of 12 months when kept in a dry place in at average ambient temperature tightly closed original packaging.

Precautions:

Cosmotron® DPU-AC is a non-hazardous 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 the product:

- Wear full overalls, gloves and safety goggles
- Avoid skin and eye contact
- Avoid inhalation if there is a dust potential - use dust mask or NOISH approved respirator in enclosed areas
- Always wash hands before eating, drinking, smoking or using the toilet
- Wash any contaminated clothing or protective equipment prior to storage or reuse.

For further Health and Safety information, please refer to the **Cosmotron® DPU-AC** Material Safety Data Sheet (MSDS) which is downloadable from Ability's website.