

PRODUCT DATA SHEET

ART-P181

Powdered polycarboxylate superplasticizer

Description

ART-P181 is a powdered polycarboxylate superplasticizer developed independently by ARIT with intellectual property rights. With a special molecular structure, ART-P181 achieves high regularity of polymer chain segments through controlled polymerization process and has very excellent adsorption and dispersion effects on cementitious materials. ART-P181 can achieve good dispersion effects at a water-to-binder ratio of 0.14 and reduce the yield stress and plastic viscosity of the mixture, which provides the mixture with very high workability. It is suitable for cement-based mortar and concrete mixtures that require high fluidity and high strength.

Main benefits/Characteristics

- Maximum water-reduction rate can reach 65% and can be adapted to on-site demands
- Compatible with other dispersants, retarders, air entrainers, early strength agents, and other additives to achieve different effects
- Suitable for gel systems such as Portland cement and sulfoaluminate cement
- Rapid wetting and dispersion speed
- Extremely high water reduction rate and compactness
- Good plasticizing effect and good pumpability.
- Effective bubble control and good anti-shrinking effect.
- High early strength without affecting the later strength.
- Good long-term storage stability.
- Fully soluble

Applications

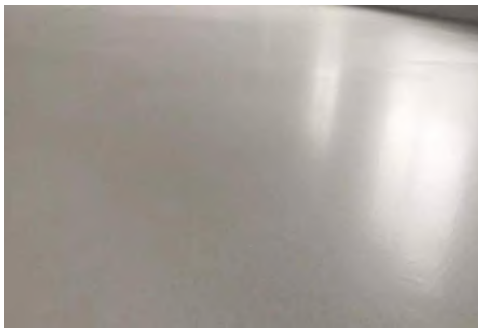
- High-strength grouting material, grouting agent
- Self-leveling mortar, floor mortar, waterproof mortar, adhesive mortar
- Cement-based repair mortar
- Ultra-high-performance concrete (UHPC)
- Commercial concrete and engineering concrete

Application Cases



Grouting material

At the production workshop of a C80 sleeve grouting material in Shanghai, ART-P181 powder water-reducing admixture is used. The 12-hour strength can reach 50 MPa, with significant improvements in fluidity and pumpability. The homogeneity of the grout is notably enhanced, and the viscosity is effectively reduced, allowing for full filling of voids. This leads to a significant increase in the convenience of operation and construction.



Self-leveling mortar

At a self-leveling mortar application site in Shandong, the ART-P181 was used. The mortar has good adhesion to the base, and after hardening, the surface is smooth and does not require manual repair.



Repair Mortar

At a road repair mortar construction site in Nanjing, ART-P181 was used with ART-CSH. The strength reached 20MPa after 4 hours, and the road was ready for traffic within 6 hours. There were no signs of cracking or shrinkage after 28 days.



Ultra-high performance concrete

At a C150 UHPC production workshop in Shanghai, ART-P181 is used. ART-P181 dispersed more quickly than similar products on the market and had a larger spread and lower viscosity, which significantly reduces the difficulty of construction. The strength after 3 days is 10% higher than that of products on the market. The later strength is not affected and the surface of the material is smooth and even.

Physical and chemical indicators

Items	Performance
Appearance	White or light yellow
Solid Content /%	≥99.5
pH	6.5±0.1
Bulk Density (kg/m ³)	300-600
Chloride Content	None

Recommended Dosage

0.2% to 2.0% weight of binder

Pre-testing must be performed to determine the exact dosage rate

Packaging

In Bags

Storage

Store in undamaged, original sealed packaging in dry conditions.

Protect product from direct sunlight

A minimum shelf life of 12 months under normal storage conditions. Shelf life may be greater than stated depends on storage conditions.

LEGAL NOTES

It is prohibited to retain or disclose samples of the product without the company's permission.

In addition to the product quality itself, the actual performance also depends on other factors.

If there are factors beyond our control, we cannot guarantee the performance of the product.

Users are requested to strictly follow the technical guidelines and product instructions for use. The company shall not be held liable for any consequences resulting from unauthorized changes to the product's usage without the company's authorization.