



TECHNICAL DATA SHEET

POLYVIA™ PCE FLAKE

PCE F980 — High Water Reduction | PCE F970 — Slump Retention

Product Type	Physical Form	Primary Use	Packing
Polycarboxylate Ether Superplasticizer	Solid Flake	PCE Liquid Preparation / Concrete Admixture Formulation / Concrete	25 kg/bag

1. Product Description

POLYVIA™ PCE Flake is a high-concentration polycarboxylate ether (PCE) superplasticizer supplied in solid flake form. It is designed for efficient long-distance transport and local preparation of liquid PCE solutions. After complete dissolution in water, the prepared solution can be used for concrete admixture formulation or directly dosed into concrete according to the required mix design and performance target.

2. Grade Selection

Grade	Performance Focus	Water Reduction	Slump Retention	Recommended Systems
PCE F980	High Water Reduction	Excellent	Moderate	Precast / HPC / Low W/B Concrete / Ready-Mix
PCE F970	Slump Retention	Moderate	Excellent	Ready-Mix / Pumped Concrete / Long Transport / Hot Weather

3. Technical Specifications

Property	PCE F980	PCE F970
Appearance	White to light yellow solid flake	White to light yellow solid flake
Solid Content, %	≥ 98	≥ 97
Bulk Density, kg/m ³	500 ± 50	500 ± 50
pH Value (23 °C)	4.0 ± 1.0	4.0 ± 1.0
Moisture, %	≤ 2.0	≤ 3.0
Water Reduction Ratio, %	≥ 25	≥ 15

Total Alkali Content, %	≤ 0.30	≤ 0.30

4. Key Performance Benefits

- High-solid PCE format reduces unnecessary water transportation and improves storage and logistics efficiency.
- F980 provides strong initial cement dispersion and high water-reduction capability for low W/B and strength-oriented concrete.
- F970 is designed to maintain concrete workability during transportation, pumping and extended placement.
- Both grades can be dissolved in water to prepare homogeneous liquid PCE solutions at the required concentration.
- F980 and F970 may be blended to balance initial water reduction and slump retention according to actual concrete requirements.

5. Recommended Applications

Concrete Admixture Production	Ready-Mix & Pumped Concrete	Precast / Prestressed / HPC	SCC / Long-Transport Concrete
Local production and formulation of liquid PCE superplasticizers.	Flexible control of water reduction and workability retention.	Supports low W/B, strength development and production efficiency.	Supports high flow or extended workability when properly integrated into the mix design.

6. Preparation of PCE Liquid

Dissolution: Add the required amount of clean water to the mixing tank, introduce PCE Flake gradually under controlled agitation, and continue mixing until a uniform, completely dissolved solution is obtained. Avoid localized high concentration and ensure the solution is homogeneous before use.

PCE Flake	Water Addition	Approx. Result
1,000 kg F980 (98% solids)	960 kg water	1,960 kg PCE Liquid at 50% solids

Practical reference: 1,000 kg F980 + 1,000 kg water produces approximately 2,000 kg of ~49% solids PCE Liquid. For other target concentrations or F970, water addition should be calculated from the actual solids content.

7. Use & Compatibility

- The prepared PCE Liquid may be used directly in concrete after complete dissolution and homogenization.
- Optimum dosage should be established by concrete trials based on cement type, SCM content, W/B ratio, temperature, initial slump/flow and required retention time.
- Compatibility testing is recommended when used with retarders, accelerators, defoamers, air-entraining agents or other concrete admixtures.
- For applications requiring both high initial water reduction and extended slump retention, F980 and F970 can be blended and optimized through laboratory and plant trials.

8. Packaging, Storage & Shelf Life

Packaging	25kg/bag with moisture-resistant inner liner
Container Loading	14MT/20'FCL with pallets; 28 MT/40'FCL with pallets
Storage	Store in a dry, cool and well-ventilated place. Protect from moisture, humidity and direct heat.
Shelf Life	12 months under recommended storage conditions in unopened original packaging.