

PALLADIUM®

High Range Water-Reducing Admixture



RAMKA
CONSTRUCTION
CHEMICALS

PALLADIUM® is a concrete hyperplasticizer for increasing flowability at the jobsite. Adding 1 kg per cubic metre of concrete in a truck mixer increases slump by approximately 10 units. It helps discharge concrete arriving with low workability. In less than 5 minutes, PALLADIUM can increase slump by more than 10 units, making discharge and pumping easier.

Approvals / Standards

- ASTM C1017/C1017M
- ASTM C494/C494M Type F
- EN 934; ISIRI 2930

Applications

- Increasing concrete slump at the jobsite.
- Redosing self-compacting concrete.
- Use as an accelerating hyperplasticizer during winter.
- Pumping concrete with very low slump.
- Improving concrete passing ability through heavily reinforced sections.
- Manufacture of precast concrete.

Features

- Cement dispersion agent.
- Provides improved material flow and extrusion characteristics.

Advantages / Benefits

- High efficiency at low dosage.
- Easy use at the jobsite: the small quantity required can be carried to the mixer opening and added to the concrete.
- Rapid flow improvement, in less than 5 minutes.

Mixing

For maximum efficiency, add PALLADIUM admixture after wetting of aggregates and cement, and after at least 75% of final mix water has been added. Allow at least 90 seconds of mixing after addition of PALLADIUM admixture.

For addition to already-mixed concrete at truck discharge on the project site

The method of use depends on the point of addition. For addition to concrete in a truck mixer at the project discharge point:

- Ask the driver to bring the concrete to the mixer discharge opening.
- Add PALLADIUM onto the concrete. The product may be diluted with water before use to improve distribution.
- Use a strong water jet to wash any admixture adhering to the hopper or drum into the concrete.
- Return the concrete into the drum and mix at high speed for 4 minutes.
- Check workability visually before authorizing discharge.

Dosage

PALLADIUM is generally added at the jobsite. The dosage is 0.1-0.5% by mass of cement. The exact amount depends on the following factors:

- Initial slump: a lower initial slump requires a higher dosage.
- Required flowability: a greater flowability demand requires a higher dosage.
- Cement content: a higher cement content requires a higher dosage.

Compatibility

PALLADIUM is compatible with concretes containing silica fume, fly ash or ground granulated blast-furnace slag cement.

- Strong dispersing action even when slump is below 4 cm.
- Helps prevent pump-line blockage.
- Improves compaction and reduces permeability.
- Increases early-age strength.
- Enables earlier formwork removal.

Add other admixtures separately. Always conduct trials before combining products in a specific mix and contact our Technical Services Department for information on specific combinations.

Effect of Overdosing

Overdosage may delay setting and cause bleeding and segregation.

PALLADIUM is used by a range of users and projects, especially those concerned with concrete quality.

Keeping a suitable hyperplasticizer at the jobsite allows low-workability concrete to be adjusted without adding water at discharge.

Its high efficiency, low dosage and ease of use provide an alternative to adding water and reducing concrete quality.

Product Information

Chemical Base	Polycarboxylate ether
Homogeneity	Homogenized
State	Liquid
Packaging	20KG Plastic Can / 1100KG IBC Container
Alkali Content (Na₂O Equivalent)	<3% by mass
Chloride Content	<0.1%
Freezing temperature	-3°C
Appearance / Color	Transparent yellow
Shelf Life	12 months from date of production if stored properly in undamaged unopened, original sealed packaging
Storage Condition	Store in dry conditions at temperatures between +5°C and +35°C. Protect from direct sunlight and frost.
Density	1.07 g/cm ³ at 20°C
PH-Value	3-7
Air content increase	Typically, less than 2% additional air is entrained at normal dosages.
Recommended Dosage	0.1-0.5% by mass of cement

For project-specific advice on water reduction and concrete dispersion, contact RAMKA Technical Services.

Effects

While mixing and casting, it has significant positive effects on hardened concrete such as increasing ultimate compressive and flexural strengths, higher E-modulus, improving adhesion to reinforcing and stressing steel, better resistance to carbonation, lower permeability, better resistance to aggressive atmospheric conditions, reducing shrinkage and creep and increasing durability.

Storage

This product must be stored in original containers at +5°C to +35°C under cover, out of direct sunlight and protected from extremes of temperature. If frozen, gradually thaw and agitate until completely reconstituted. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage conditions contact RAMKA Technical Services Department.

Basis of Data

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Health and Safety

PALLADIUM does not fall into the hazard classifications of current regulations.

However, it should not be swallowed or allowed to come into contact with skin and eyes.

Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If swallowed, seek medical attention immediately; do not induce vomiting.

Fire

PALLADIUM is water based and non-flammable.

Cleaning and disposal

Spillages of PALLADIUM should be absorbed onto sand, earth or vermiculite and transferred to suitable containers. Remnants should be hosed down with large quantities of water. Excess or waste material should be disposed of in accordance with local legislation under the guidance of the local waste regulatory authority.

Additional Information

For additional information on PALLADIUM admixture, consult our Technical Services Department.



RAMKA

CONSTRUCCION CHEMICALS

Tel: (+98)2533557596

www.RamkaCo.com

Important Notes: The information, and, in particular, the recommendations relating to the application and end-use of RAMKA products, are given in good faith based on RAMKA's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with RAMKA's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. RAMKA reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.