

# Technical Bulletin

## Polycarboxylate Plasticizers



The Concrete Floor Contractors Association of Canada represents the concrete finishing industry.

Technical Bulletins are designed to provide state of the art information to owners, specifiers and contractors to both improve quality and reduce problems.

We hope that this information will assist you in this goal.

If you have any questions, or comments, please feel free to contact us at 905-582-9825 or by e-mail at [info@concretefloors.ca](mailto:info@concretefloors.ca)

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### **Background**

Historically, water has been used to adjust the workability of a concrete mix to meet the placing, screeding and finishing requirements of a project. Since the mid 1980's plasticizing admixtures have been employed to enhance the workability of a concrete mixture chemically without adding water. Plasticizers are commonly employed with fibre reinforced concrete mixtures to offset the mechanical slump loss created by all fibre reinforcement. While plasticizers may also increase drying shrinkage, they are reported to induce less shrinkage than by using water alone.

### **Concerns:**

Polycarboxylate mid-range plasticizers can induce air entrapment in a concrete mixture. While air entrapment is different from air entrainment, the effect on floor finishing is the same. An air content in excess of 3% in concrete mixtures for floors commonly leads to blisters and delaminations in steel trowel finished surfaces.

### **Recommendations:**

The air content of the concrete must be checked for all concrete mixes at the start of each pour and then periodically thereafter (with compressive cylinder tests).

Interior concrete mixes with an air content in excess of 3% should be either rejected or modified using a compatible "de-foaming" agent.

The admixture manufacturers instructions shall be followed.

### **Further References:**

- Manufacturers recommendations

