



**RESSICHEM**  
adding life and value to your property

# Concrete Admixtures

**ریسیکیم**  
مضبوطی اور پائیداری کے لئے

📍 D-83, S.I.T.E., INDUSTRIAL AREA, MANGHOPIR ROAD, KARACHI - 75530, PAKISTAN  
☎ +92-21-32593800-02  
🌐 WWW.RESSICHEM.COM



## Who we are and what we do?

Ressichem was established in 1999, since its inception, we are proud to cater to the needs of the construction and many other industries offering quality products manufactured at our state-of-the-art plant sourced from the best in the world. Raw materials for our products are also sourced from quality suppliers worldwide. Ressichem takes pride presenting a variety of construction materials and systems which can cater to many needs of the construction industry.

They include:

- **Dry Mix Mortars / Premix Plasters**
- **Epoxy Floorings**
- **Building Care & Maintenance**
- **Epoxy Adhesives & Coatings**
- **Tiling & Grouting Materials**
- **Concrete & Mortar Admixtures**
- **Building Insulation**
- **Decorative Concrete**
- **Specialty Products**

Backed by a fully equipped laboratory at our own premises with a team of qualified engineers and chemists. Ressichem carries out regular tests to maintain quality of finished products for various construction & industrial applications. Vigorous onsite support & quality systems allow for maintaining the quality of our products, as well as solve construction and industrial problems. In our effort to maximize customer satisfaction, our technical personnel directly coordinate with customers to offer excellent services,

product selections & even troubleshoot problems where needed.

Operating on a customer first philosophy, Ressichem has carved its name in the ever-demanding needs of its industry, by offering world class services and fulfilling customer requirements via quality manufacturing and rigid quality control of products. We believe that the responsiveness and the priority we attach to the customer needs & their satisfaction has played a pivotal role in our phenomenal growth so far.



## Concrete Chemical Admixtures

Chemical admixtures are the ingredients in concrete other than Portland cement, water, & aggregate that are added to the mix immediately before or during mixing. Producers use admixtures primarily to reduce the cost of concrete construction; to modify the properties of hardened concrete; to ensure the quality of concrete during mixing, transporting, placing, and curing; and to overcome certain emergencies during concrete operations.

Successful use of admixtures depends on the use of appropriate methods of batching and concreting. Most admixtures are supplied in ready-to-use liquid or powder form and are added to the concrete at the plant or at the jobsite. Certain admixtures, such as pigments, expansive agents, and pumping aids are used only in extremely small amounts & are usually batched by hand from premeasured containers.

The effectiveness of an admixture depends on several factors including: type and amount of cement, water content, mixing time, slump, and temperatures of the concrete and air.

Sometimes, effects such as mixing time, slump, change in temperatures are achieved through the addition of admixtures can be achieved by altering the concrete mixture-reducing the water-cement ratio, adding additional cement, using a different type of cement, or changing the aggregate and aggregate gradation.

## Functions

Admixtures are classed according to function. There are some distinct classes of chemical admixtures: air-entraining, water-reducing, retarding, accelerating, and plasticizers (superplasticizers). All other varieties of admixtures fall into the specialty category whose functions include corrosion inhibition, shrinkage reduction, alkali-silica reactivity reduction, workability enhancement, bonding, damp proofing, and coloring. Air-entraining admixtures, which are used to purposely place microscopic air bubbles into the concrete.

### Water-reducing admixtures

These admixtures usually reduce the required water content for a concrete mixture by about 5 to 50 percent. Consequently, concrete containing a water-reducing admixture needs less water to reach a required slump than untreated concrete. The treated concrete can have a lower water-cement ratio. This usually indicates that a higher strength concrete can be produced without increasing the amount of cement. Rensichem has also developed a variety of mid-range water reducers. These admixtures reduce water content by at least 8 percent and tend to be more stable over a wider range of temperatures. Midrange water reducers provide more consistent setting times than standard water reducers.

## Retarding admixtures

These admixtures usually slow the setting rate of concrete, are used to counteract the accelerating effect of hot weather on concrete setting. High temperatures often cause an increased rate of hardening which makes placing & finishing difficult. Retarders keep concrete workable during placement and delay the initial set of concrete. Most retarders also function as water reducers and may entrain some air in concrete.

## Accelerating admixtures

These admixtures increase the rate of early strength development, reduce the time required for proper curing and protection, and speed up the start of finishing operations. Accelerating admixtures are especially useful for modifying the properties of concrete in cold weather.



## Superplasticizers,

These are also known as plasticizers or high-range water reducers (HRWR), reduce water content by 12 to 30 percent & even higher water reduction in some cases. These can be added to concrete with a low-to-normal slump & water-cement ratio to make high-slump flowing concrete. Flowing concrete is a highly fluid but workable concrete that can be placed with little or no vibration or compaction. The effect of superplasticizers lasts only 30 to 60 minutes, depending on the grade of admixture and dosage rate, & is followed by a rapid loss in workability. As a result of the slump loss, superplasticizers are usually added to concrete at the jobsite.

## Corrosion-inhibiting, Air entrainment & integral waterproofing admixtures

These fall into the specialty admixture category and are used to slow corrosion of reinforcing steel in concrete. Corrosion inhibitors can be used as a defensive strategy for concrete structures, such as marine facilities, highway bridges, & parking garages, that will be exposed to high concentrations of chloride.

Other specialty admixtures include shrinkage-reducing admixtures and alkali-silica reactivity inhibitors. The shrinkage reducers are used to control drying shrinkage & minimize cracking, while ASR inhibitors control durability problems associated with alkali-silica reactivity. Air entrainment admixtures are used to create micro air pores into the concrete matrix which reduce the weight if the concrete. These types of air entrainment admixtures are usually used for specialist applications. Integral waterproofing admixtures are specifically used to increase compaction and reduce the water permeability of the concrete in question.

## Recommendation

It is strongly recommended that all types of admixtures presented by Ressichem should be tested prior to introducing them into the concrete mix design, appropriate dosages of concrete admixtures should be used within the mix design for optimum results. Please refer to Product TDS for detailed product information.

## Our Range of Concrete Admixtures

S.No	Product Name	Description	Tentative Dosage ( By weight of cement)
1	<b>Max Flo P</b>	Water reducing and plasticizing concrete admixture	0.5% - 1.5%
2	<b>Max Flo P 800</b>	Water reducing and set retarding and plasticizing admixture	0.5% - 1.5%
3	<b>Max Flo P 801</b>	Water reducing and set retarding and plasticizing admixture	0.5% - 1.5%
4	<b>Max Flo SP 802</b>	High range water reducing and set retarding concrete admixture	0.5% - 3%
5	<b>Max Flo SP 803</b>	Superplasticizer for extended concrete workability	1% - 3%
6	<b>Max Flo SP 804</b>	Superplasticizer for extended concrete workability	0.5% - 3%
7	<b>Max Flo SP 805</b>	High performance superplasticizer	1% - 2.5%
8	<b>Max Flo SP 900</b>	High range water reducing super plasticizer	0.5% - 3%
9	<b>Max Flo SP 901</b>	High range water reducing super plasticizer	0.8% - 3%
10	<b>Max Flo SP 902</b>	Strength accelerating super plasticizer	0.5% - 3%
11	<b>Max Flo SP 903</b>	Melamine based superplasticizer	0.5% - 3%
12	<b>Max Flo 4000</b>	Polycarboxylate superplasticizer	0.5% - 2%
13	<b>Max Flo 5000</b>	Polycarboxylate high range superplasticizer	0.5% - 2%
14	<b>Max Flo 6000</b>	Polycarboxylate superplasticizer for precast	0.5% - 1.5%
15	<b>Max Flo VE</b>	Viscosity enhancing concrete admixture	0.05% - 0.5%
16	<b>Max Flo R</b>	Mortar and concrete set retarding admixture	0.5% - 1.5%
17	<b>Max Flo Air Intra</b>	Air entraining concrete and mortar admixture	0.03% - 0.25%
18	<b>Max Flo Integra 1 (Powder)</b>	Integral waterproofing liquid admixture for concrete and mortar	0.3% - 1%
19	<b>Max Flo Integra 2 (Powder)</b>	Integral water repellent admixture	0.5% - 1%
20	<b>Max Flo Integra 3 (Powder)</b>	Durability enhancing & waterproofing admixture	1% - 2.5%
21	<b>Max Flo Integra 4 (Powder)</b>	Plasticizing Integral waterproofing powder admixture	0.8% - 2.5%
22	<b>Max Flo CI</b>	Corrosion inhibiting admixture	7 Ltr to 25 Ltr Per cubic meter of concrete

## Our Range of Concrete Admixtures

S.No	Product Name	Description	Tentative Dosage ( By weight of cement)
23	<b>Max Flo PB</b>	Plasticizer for paver & masonry blocks	0.40 to 1.0 Ltr / 100 KG of cementitious material.
24	<b>Max Flo MP</b>	Mortar plasticizer	0.03% - 0.05%
25	<b>Max Flo SAL</b>	Set accelerating liquid admixture for short Crete	3% - 10%
26	<b>Max Flo SAP</b>	Set accelerating powder admixture	2% - 7%
27	<b>Max Flo P 800 (Powder)</b>	Set retarding powder admixture	0.25% - 0.75%
28	<b>Max Flo SP 900 (Powder)</b>	Water reducing high performance superplasticizer	0.5% - 1.5%
29	<b>Max Flo SP 802 (Powder)</b>	Water reducing and set retarding superplasticizer	0.25% - 1.5%





# RESSICHEM

adding life and value to your property

 D-83, S.I.T.E., Industrial Area, Manghopir Road,  
Karachi - 75530, Pakistan

 [www.ressichem.com](http://www.ressichem.com)  [info@ressichem.com](mailto:info@ressichem.com)

 +92-21-32593800-02 | +92-309-7772464

 [facebook.com/Ressichem](https://facebook.com/Ressichem)

 [youtube.com/Ressichem](https://youtube.com/Ressichem)