

Admixtures for Ready-mix Concrete



ADMIXTURES FOR READY-MIX CONCRETE

Since the admixtures for concrete can have extremely different performances and usage, the norm has different classification categories, different tests and minimum performance levels for every single admixture type.

Admixtures that also have important secondary functions can also obtain the certification for two or more categories at the same time. This way the effects of the admixture on concrete, both during the fresh state and hardened, will be able to be studied.

In order to see if the products meet the requirements, the specific tests for each type of admixture must be carried out:

- when the certificate is first issued;
- when a new formula or type of admixture is developed;
- when a modification of the formula could significantly influence the admixture's performances;
- when a modification of the raw material could significantly influence the admixture's performances.

The following table lists the classification of admixtures for concrete, the abbreviations and the norm table that defines the minimum requirements.

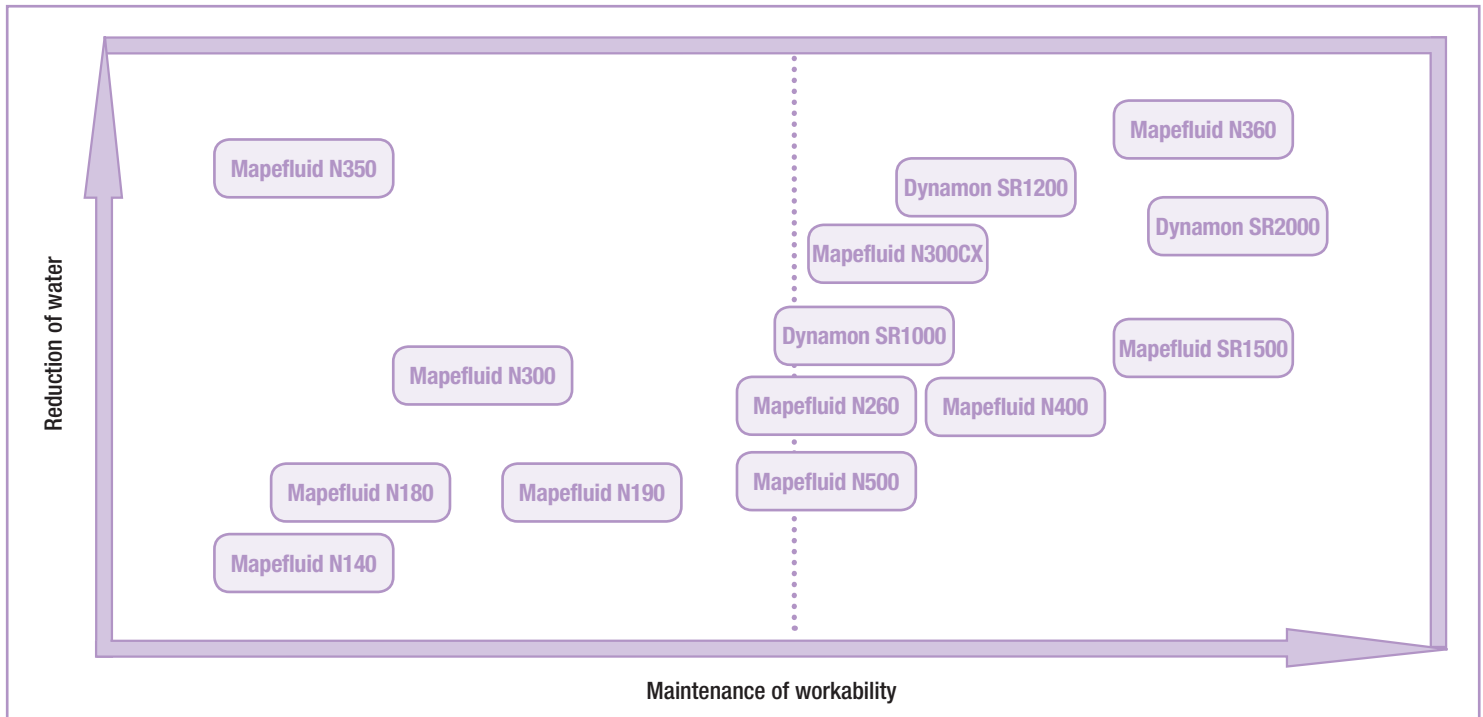
PRODUCT CLASSIFICATIONS ACCORDING TO EN 934-2

CLASSIFICATION	DESCRIPTION	TABLE
WR	Water reducing / plasticising admixture	Table 2
HRWR	High range water reducing/ super-plasticising admixture	Table 3
WRA	Water retarding admixture	Table 4
AEA	Air entraining admixture	Table 5
SAA	Set accelerating admixture	Table 6
HAA	Hardening accelerating admixture	Table 7
SRA	Set retarding admixture	Table 8
WRA	Water resisting admixture	Table 9
WR+SRA	Set ratarding/ water reducing/ plasticising admixture	Table 10
HRWR+SRA	Set ratarding/ high range water reducing/ super-plasticising admixture	Table 11
WR+SAA	Set accelerating/ water reducing/ plasticising admixture	Table 12

PRODUCT CLASSIFICATIONS ACCORDING TO ASTM C494

CLASSIFICATION	DESCRIPTION	TYPE
WR	Water reducing admixture	Type A
WRA	Water-retarding admixture	Type B
SAA	Set accelerating admixture	Type C
WR + SRA	Water-reducing/retarding admixture	Type D
WR + SAA	Water-reducing/ accelerating admixture	Type E
HAA	Water-reducing/ high range admixture	Type F
HRWR + SRA	Water-reducing/ high range/ retarding admixture	Type G

CONVENTIONAL READY-MIX CONCRETE ADMIXTURES



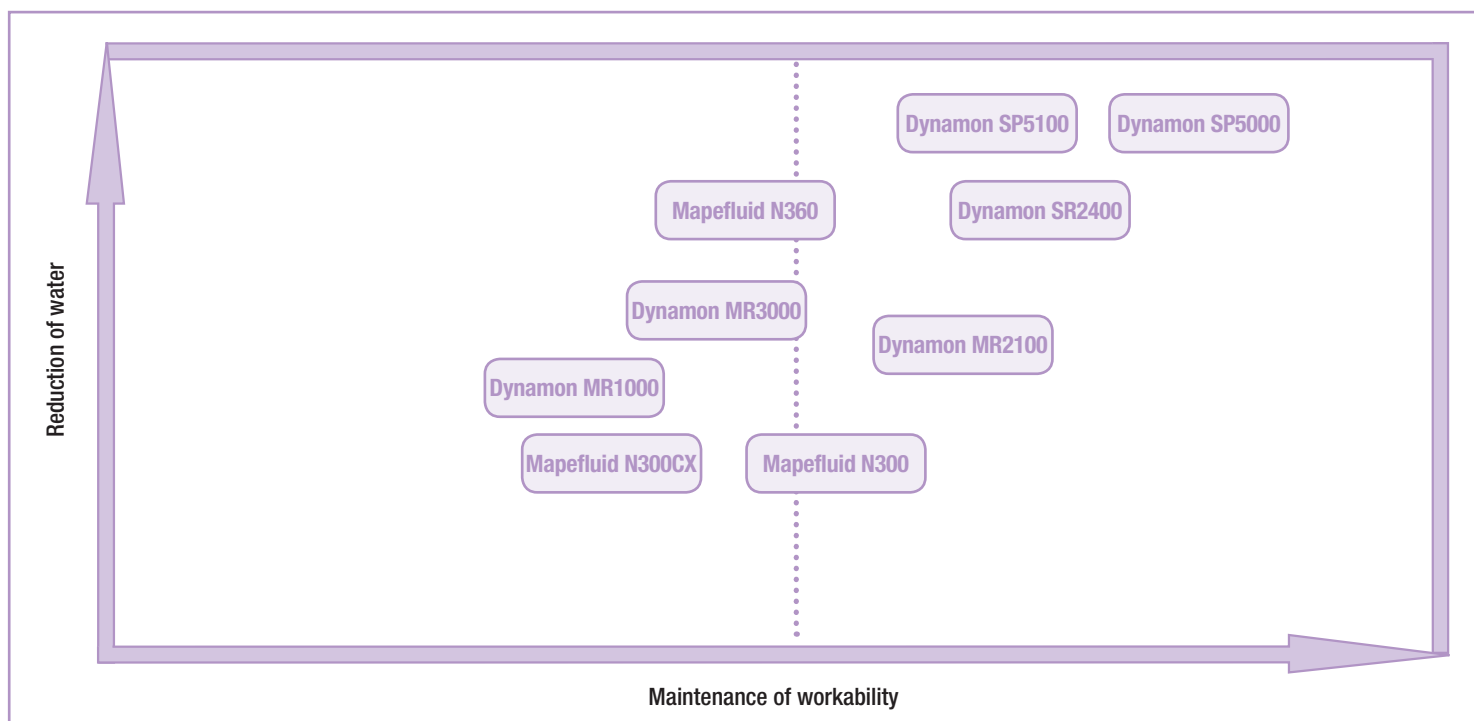
The product in this range combine a good reduction in the water/cement ratio with good maintenance of workability and excellent compatibility with the main types of concrete inquired in the market.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Mapefluid N140 Water reducing Superplasticizer for concrete	0.5-2.0%	1.15±0.03	6.0 ±1.0	T3.1-3.2	Type F, G
Mapefluid N180 Water-reducing, superplasticizer/ retarder for concrete	0.5-3.0 %	1.08±0.02	5.4 ±1.0	T2, 10, 11.1-11.2	Type A, B, D, G
Mapefluid N190 Water-reducing, Superplasticizer developed specifically for ready mix concrete industries; requiring the highest concrete quality and performance	0.5-3.0 %	1.08±0.02	5.1 ±1.0	T2, 10, 11.1-11.2	Type A, B, D, G
Mapefluid N260 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.21±0.03	6.0 ±1.0	T11.1-11.2	Type G
Mapefluid N300 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.23±0.03	8.5±2.0	T11.1-11.2	Type F, G
Mapefluid N300 CX High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.22±0.03	6.9±1.0	T11.1-11.2	Type G

CONVENTIONAL READY-MIX CONCRETE ADMIXTURES

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Mapefluid N350 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.20±0.03	7.5 ±1.5	T11.1-11.2	Type F, G
Mapefluid N360 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.24±0.03	8.0 ±1.0	T11.1-11.2	Type F, G
Mapefluid N400 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.09±0.02	5.0 ±1.0	T3.1-3.2	Type F, G
Mapefluid N500 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.05±0.02	4.5 ±1.0	T3.1-3.2	Type F, G
Dynamon SR1000 Third generation superplasticiser based on modified acrylic polymer, developed specifically for ready mix concrete industries, requiring the highest concrete quality and performance	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.05±0.02	5.0 ±1.0	T11.1-11.2	Type F, G
Dynamon SR1200 Superplasticiser admixture based on polymer modified polycarboxylate ether for high performance concrete mixes with very low water/ cement ratios, high compressive strengths and long slump retention in hot climates	0.5-2.0%	1.06±0.02	5.5 ±1.0	T11.1-11.2	Type G
Dynamon SR1500 Third generation superplasticiser based on modified acrylic polymer, developed specifically for ready mix concrete industries, requiring the highest concrete quality and performance	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.04±0.02	4.7 ±1.0	T11.1-11.2	Type G
Dynamon SR2000 Third generation superplasticiser based on modified acrylic polymer, developed specifically for ready mix concrete industries, requiring the highest concrete quality and performance	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.07±0.02	5.0 ±1.0	T11.1-11.2	Type G

MULTI-PURPOSE SUPERPLASTICISERS FOR READY-MIX CONCRETE



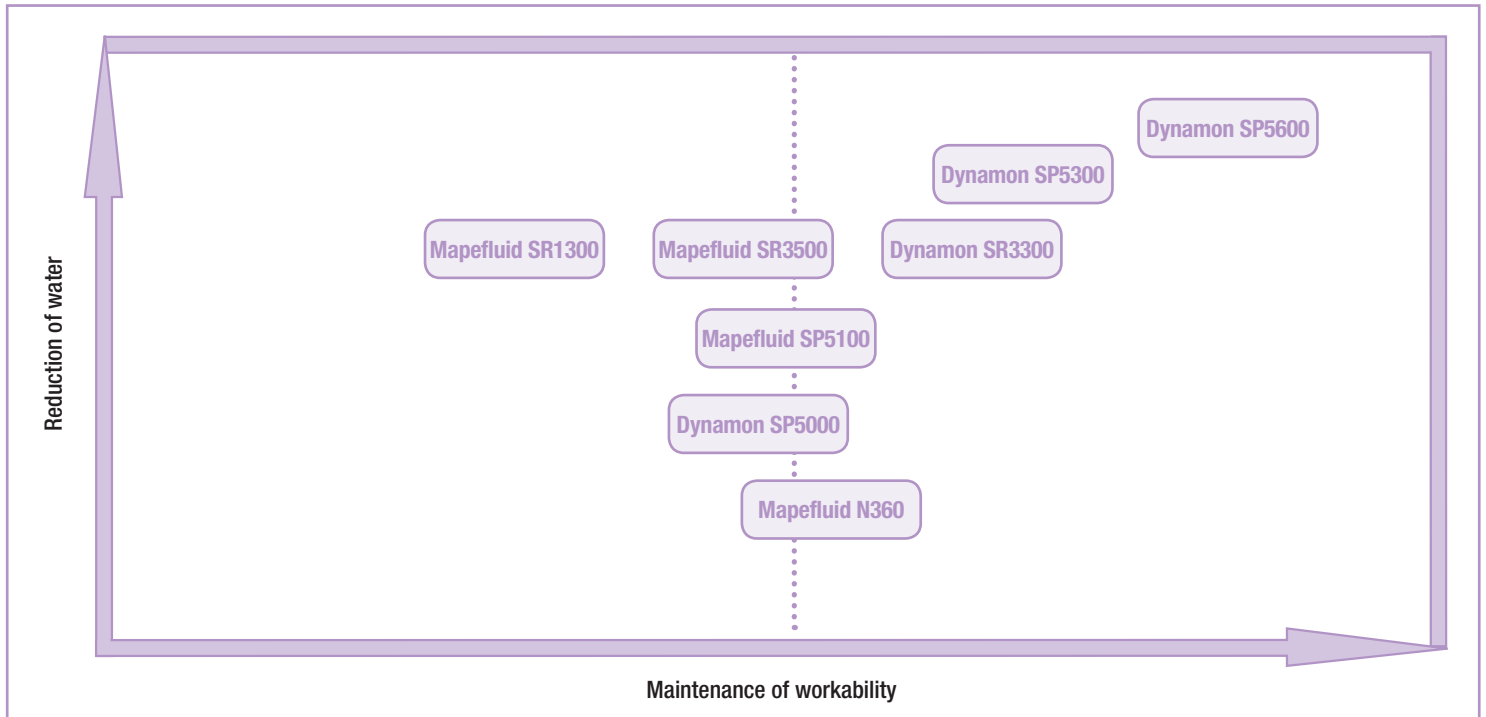
This range of specific super-plasticizing admixtures for the ready-mixes concrete market, MAPEI presents a family of products specifically developed and formulated to meet the everyday requirements of concrete plants.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Mapefluid N300 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.23±0.03	8.5±2.0	T11.1-11.2	Type F, G
Mapefluid N300 CX High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.22±0.03	6.9±1.0	T11.1-11.2	Type G
Mapefluid N360 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.24±0.03	8.0 ±1.0	T11.1-11.2	Type F, G
Dynamon MR1000 Concrete superplasticizer based on modified acrylic polymer, developed specifically for ready mix concrete industries, where the highest levels of concrete quality and performance is required	0.8-2.5%	1.07±0.02	7.0 ±1.0	T11.1-11.2	Type G
Dynamon MR2100 Concrete superplasticizer based on modified acrylic polymer; developed specifically for ready mix concrete industries; where the highest levels of concrete quality and performance is required	0.8-2.5%	1.20±0.03	5.5 ±1.5	T11.1-11.2	Type D, G
Dynamon MR3000 Concrete superplasticizer based on modified acrylic polymer; developed specifically for ready mix concrete industries; where the highest levels of concrete quality and performance is required.	0.8-2.5%	1.07±0.02	6.3 ±1.0	T11.1-11.2	Type G

MULTI-PURPOSE SUPERPLASTICISERS FOR READY-MIX CONCRETE

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Dynamon SR2400 Third generation superplasticizer based on modified acrylic polymer; developed specifically for ready mix concrete industries; requiring the highest concrete quality and performance	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.06±0.02	4.5 ±1.5	T11.1-11.2	Type G
Dynamon SP5000 Superplasticizer admixture based on polymer modified polycarboxylate ether for high performance concrete mixes with very low water/ cement ratios, high compressive strengths and long slump retention in hot climate.	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.09±0.02	5.0±1.0	T3.1-3.2	Type F, G
Dynamon SP5100 Hyperplasticising admixture based on polymer modified polycarboxylate ether for high performance concrete mixes with very low water/ cement ratio, high compressive strengths, long slump retention and self-compacting concrete.	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.08±0.02	4.5±1.0	T11.1-11.2	Type G

HIGH PERFORMANCE SUPERPLASTICISERS FOR READY-MIX CONCRETE



The products in this range are well calibrated to reduce the water/cement ratio in the concrete mixtures which improve the mechanical properties of the reinforced concrete structures. It enhances the developed strength for the casted concrete elements in the early age as well as the long term age of the structures.

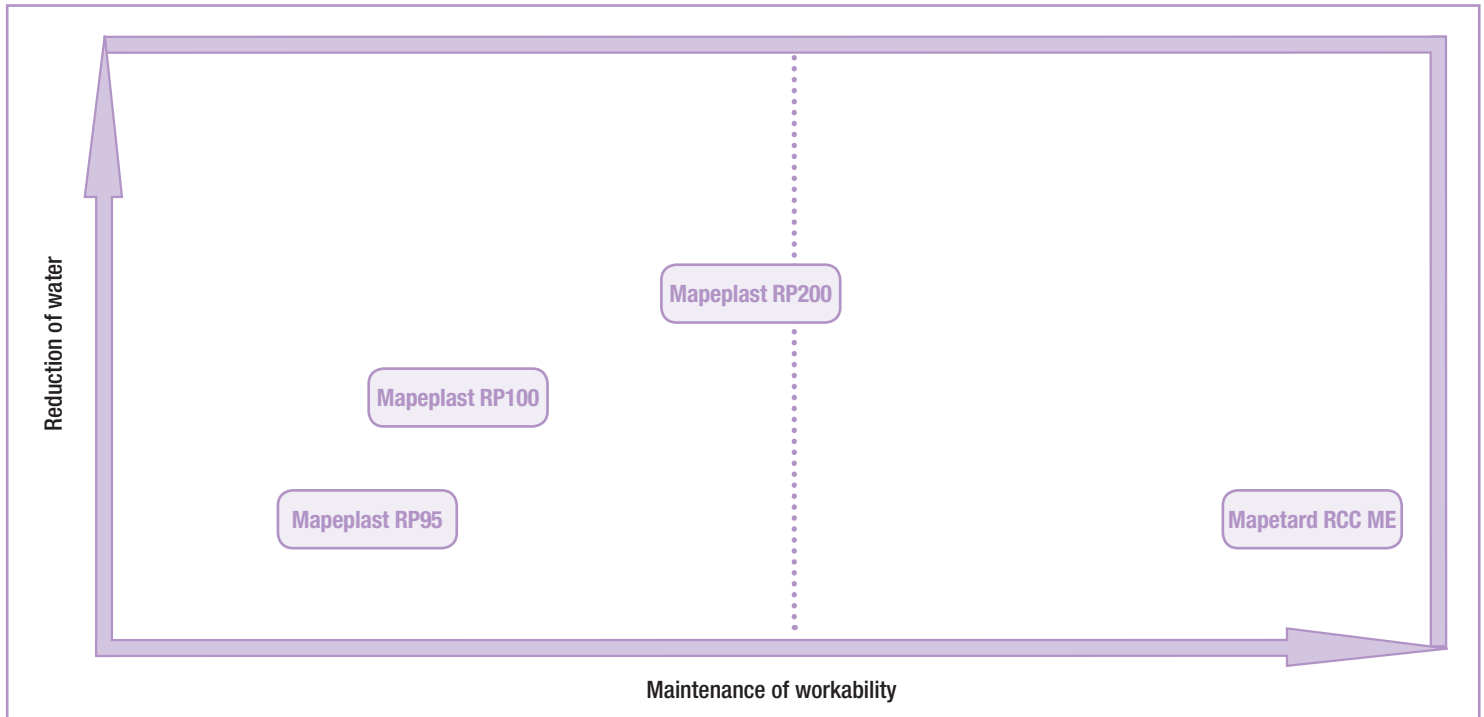
These characteristics make it an ideal range of products for large sites and for large infrastructures.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Mapefluid N360 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.24±0.03	8.0 ±1.0	T11.1-11.2	Type F, G
Dynamon SR1300 Superplasticizer based on modified acrylic polymer, developed especially for high flow concrete with extended slump retention in hot climates. Especially suitable for use in concrete mixes containing silica fume and other pozzolanic materials	0.8-2.0%	1.06±0.02	5.0 ±1.0	T11.1-11.2	Type D, G
Dynamon SR3300 Hyperplasticising admixture based on polymer modified polycarboxylate ether for high performance and self-compacting concrete mixes	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.24±0.03	8.0 ±1.0	T11.1-11.2	Type F, G
Dynamon SR3500 Superplasticizer based on modified acrylic polymer for concrete with very low water cement ratio, high compressive strengths and long slump retention	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.08±0.02	5.7 ±1.0	T11.1-11.2	Type G
Dynamon SP5000 Concrete superplasticizer based on modified acrylic polymer; developed specifically for ready mix concrete industries; where the highest levels of concrete quality and performance is required	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.09±0.02	5.0 ±1.0	T3.1-3.2	Type F, G

HIGH PERFORMANCE SUPERPLASTICISERS FOR READY-MIX CONCRETE

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Dynamon SP5100 Hyperplasticising admixture based on polymer modified polycarboxylate ether for high performance concrete mixes with very low water/cement ratio, high compressive strengths, long slump retention and self-compacting concrete	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.08±0.02	4.5 ±1.0	T11.1-11.2	Type G
Dynamon SP5300 Hyperplasticising admixture based on new generation polycarboxylate ether for high performance concrete mixes with very low water cement ratios, high early compressive strengths, long slump retention and self-consolidating & self-compacting concrete	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.11±0.03	5.5 ±1.0	T11.1-11.2	Type F, G
Dynamon SP5600 Hyperplasticising admixture based on new generation of polycarboxylate ether for high performance concrete mixes with very low water cement ratios, high early compressive strengths, long slump retention and self-compacting concrete	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.10±0.03	3.5 ±1.5	T11.1-11.2	Type F, G

RETARDING PLASTICISER/ RETARDING ADMIXTURE

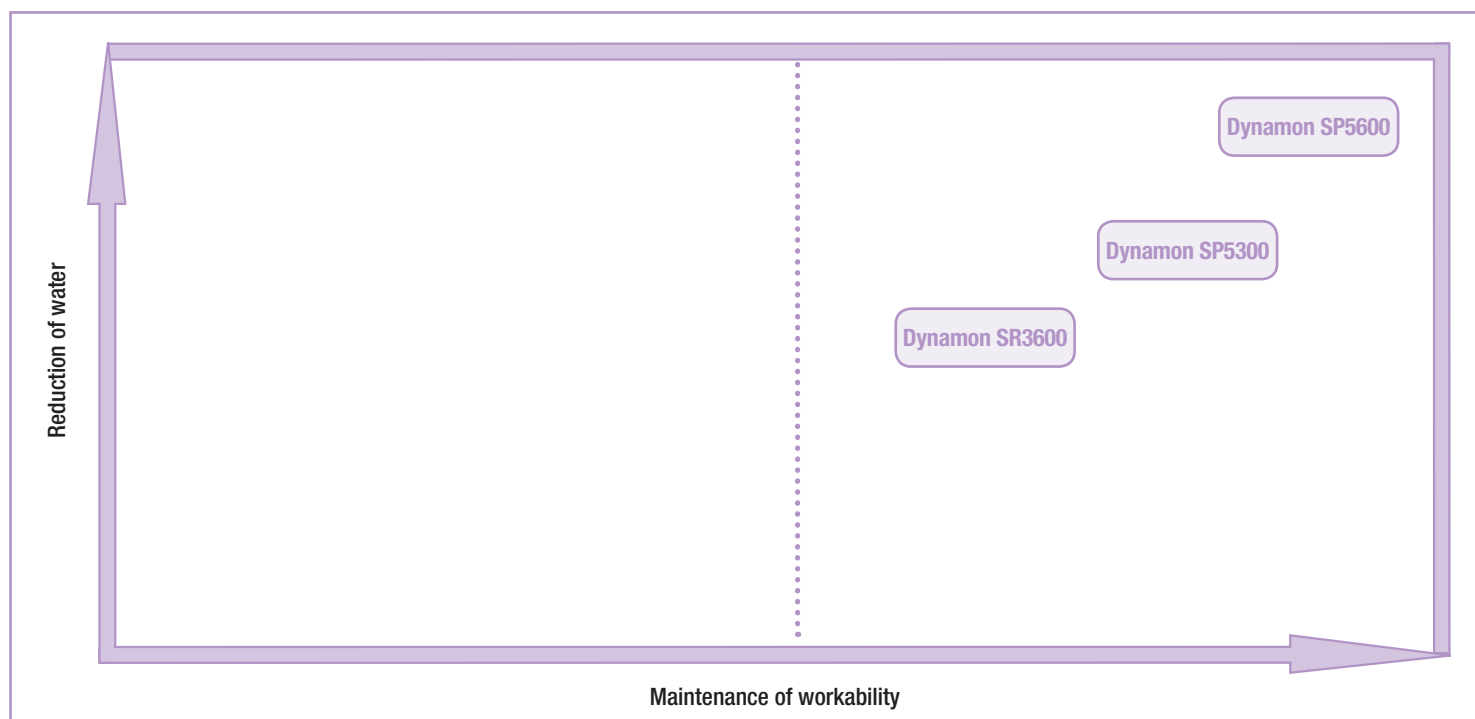


A range of retarding plasticizing / retarder admixture for the ready mix concrete industry may be used in a wide variety of doses, ideal for making concrete which develops a low amount of heat during hydration.

The products in this range have been specially developed to reduce the water/cement ratio according to the amount of admixtures used, as well as keeping the workability maintained if required for long time by considering the retarding admixtures.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Mapeplast RP95 Retarding plasticizer, water reducing admixture.	0.3-0.8%	1.24±0.03	8.0 ±1.0	T11.1-11.2	Type F, G
Mapeplast RP100 Retarding plasticizer, water reducing admixture.	0.3-0.8%	1.15±0.03	6.0±1.5	T10	Type B
Mapeplast RP200 Retarding plasticizer, water reducing admixture.	0.3-0.8%	1.17±0.03	6.0±2.0	T2	Type B & D
Mapetard RCC ME Liquid retarding admixture with plasticizing effect.	1.0-6.0 L/m ³	1.21±0.03	6.5±1.0	T8	Type B

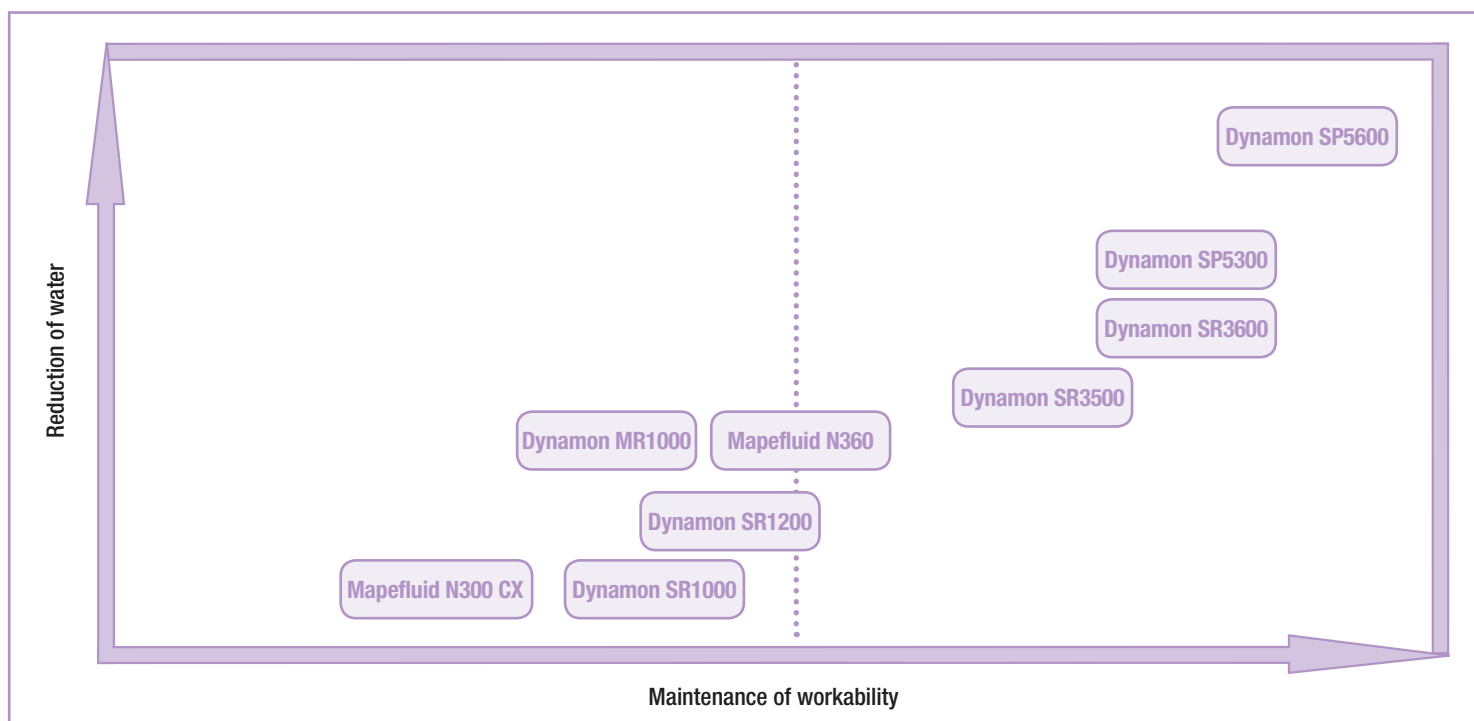
SELF COMPACTING CONCRETE ADMIXTURE



The performance characteristics achieved when using these super-plasticizers make them particularly useful when mixing S.C.C in that they grantee good flow of the cement mixture without negative effect of excessive stickiness in the cementitious matrix.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Dynamon SP5300 Hyperplasticising admixture based on new generation polycarboxylate ether for high performance concrete mixes with very low water cement ratios, high early compressive strengths, long slump retention and self-consolidating & self-compacting concrete.	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.11 ±0.03	5.5 ±1.0	T11.1-11.2	Type F, G
Dynamon SP5600 Hyperplasticising admixture based on new generation of polycarboxylate ether for high performance concrete mixes with very low water cement ratios, high early compressive strengths, long slump retention and self-compacting concrete.	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.10 ±0.03	3.5 ±1.5	T11.1-11.2	Type B
Dynamon SR3600 Superplasticizer based on modified acrylic polymer for concrete with very low water cement ratio, high compressive strengths and long slump retention	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.10±0.03	5.0 ±1.5	T11.1-11.2	Type G

BLENDED CEMENT CONCRETE ADMIXTURE



Products in this range are well developed under special consideration to the blended cement technology. It enhances the water reduction, long retardation and durability aspects. This combination of Naphthalene and Polycarboxylate products has the ability to improve the concrete characteristics made with blended cement, especially for high durable and high performance concrete at hot climate countries.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Mapefluid N300 CX High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.2% High Performance: 1.0-2.0%	1.22±0.03	6.9±1.0	T11.1-11.2	Type G
Mapefluid N360 High range water reducing superplasticizer for concrete containing fly ash, GGBS, and silica fume	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.24±0.03	8.0 ±1.0	T11.1-11.2	Type F, G
Dynamon MR1000 Concrete superplasticizer based on modified acrylic polymer, developed specifically for ready mix concrete industries, where the highest levels of concrete quality and performance is required	0.8-2.5%	1.07±0.02	7.0 ±1.0	T11.1-11.2	Type G
Dynamon SR1000 Third generation superplasticiser based on modified acrylic polymer, developed specifically for ready mix concrete industries, requiring the highest concrete quality and performance	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.05±0.02	5.0 ±1.0	T11.1-11.2	Type F, G
Dynamon SR1200 Superplasticiser admixture based on polymer modified polycarboxylate ether for high performance concrete mixes with very low water/ cement ratios, high compressive strengths and long slump retention in hot climates	0.5-2.0%	1.06±0.02	5.5 ±1.0	T11.1-11.2	Type G

BLENDING CEMENT CONCRETE ADMIXTURE

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	CLASSIFICATION (ASTM C494)
Dynamon SR3500 Superplasticizer based on modified acrylic polymer for concrete with very low water cement ratio, high compressive strengths and long slump retention	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.08±0.02	5.7 ±1.0	T11.1-11.2	Type G
Dynamon SR3600 Superplasticizer based on modified acrylic polymer for concrete with very low water cement ratio, high compressive strengths and long slump retention	Normal: 0.5-1.5% High Performance: 1.0-2.0%	1.10±0.03	5.0 ±1.5	T11.1-11.2	Type G
Dynamon SP5300 Hyperplasticising admixture based on new generation polycarboxylate ether for high performance concrete mixes with very low water cement ratios, high early compressive strengths, long slump retention and self-consolidating & self-compacting concrete	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.10±0.03	5.5 ±1.0	T11.1-11.2	Type F, G
Dynamon SP5600 Hyperplasticising admixture based on new generation of polycarboxylate ether for high performance concrete mixes with very low water cement ratios, high early compressive strengths, long slump retention and self-compacting concrete	Normal: 0.5-1.5% High Performance: 0.8-2.0%	1.10±0.03	3.5 ±1.5	T11.1-11.2	Type F, G

SHRINKAGE REDUCING ADMIXTURES

Mapecure SRA

Admixture to reduce hydraulic shrinkage and the formation of cracks for compensated-shrinkage mortar and concrete.
Density: 0.91 g/cm³

WATER REPELLING AGENTS

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C)	pH (ISO 4316)	CLASSIFICATION (EN 934-2)	
Idrocrete DM Liquid waterproofing admixture for cementitious mixtures that significantly reduces the absorption of water in cured concrete and prevents efflorescences.	0.2-0.6%	1.03±0.02	5.7 ±1.0	T9	

LIGHT WEIGHT CONCRETE/ FOAM CONCRETE AGENT

Mapeair LA/L

Liquid admixture with foaming action for entraining high volumes of air in cementitious mixtures, especially recommended for producing easily pumpable light-weight mortars and concretes.
Density: 1.10±0.02 g/cm³

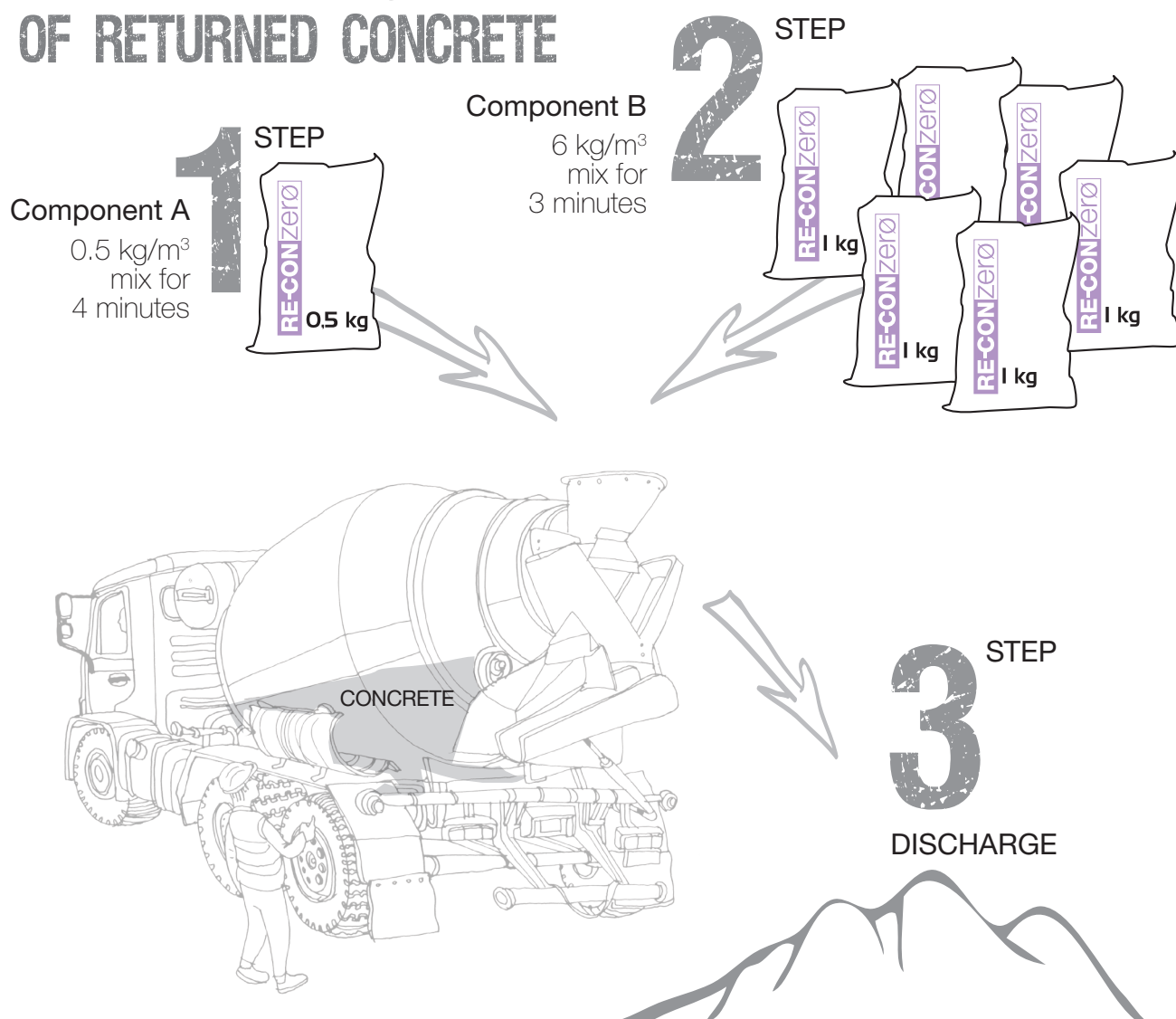
Mapeair LA/P

Powder admixture with foaming action for entraining high volumes of air in cement mixes, especially recommended for producing easily pumpable light-weight mortars and concretes.
Density: 0.8 g/cm³

PRODUCTS FOR RECYCLING AND REPAIR OPERATION

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE	DENSITY (ISO 758)(g/cm ³) at 25°C
Mapeclean Recycler Admixture to recycle water used for rinsing cement trucks	0.1 kg / 100 l of water	0.87±0.01
Re-Con Zero Two-component powdered product used to recover left over concrete directly from mixer trucks	Comp A: 0.5 kg/ m ³ Comp B: 6.0 kg/ m ³	Comp A: 0.8 Comp B: 1.1

SUSTAINABLE RECOVERY OF RETURNED CONCRETE



Complete kit to treat 1 cubic metre of returned concrete:

RE-CON ZERO Component A: 1x0.5 kg water-soluble bag

RE-CON ZERO Component B: 6x1 kg water-soluble bags

STRUCTURAL AND ANTI-SHRINKAGE FIBRES

Mapefibre CN 54



Mapefibre ST 30



Mapefibre ST 42



Mapefibre NS12 / Mapefibre NS18



The polymer fibres for concrete from the **Mapefibre** range are available in two types: structural and non-structural. The products in this range have been specifically developed to meet all structural strengthening requirements for concrete, and to prevent and contain cracking phenomenon caused by plastic shrinkage in concrete.

Mapefibre ST and **Mapefibre CN** are particularly suitable for the structural strengthening of concrete, in that they may be used to partially or completely substitute secondary steel reinforcement.

Mapefibre NS fibres are dimensioned specifically to prevent and control cracking phenomenon caused by plastic shrinkage in concrete.

PRODUCT / DESCRIPTION	RECOMMENDED DOSAGE
Mapefibre ST 30 30 mm structural polymeric fibres used as a substitute for reinforcement mesh in traditional floors	1-7 kg/m ³
Mapefibre ST 42 42 mm structural polymeric fibres used as a substitute for reinforcement mesh in traditional floors	1-7 kg/m ³
Mapefibre CN 54 54 mm structural polymeric fibres used as a substitute for reinforcement mesh in traditional flooring and shotcrete	1-7 kg/m ³
Mapefibre NS 12 Anti-shrinkage polypropylene fibres to reduce cracking	0.4-0.8 kg/m ³
Mapefibre NS 18 Anti-shrinkage polypropylene fibres to reduce cracking	0.4-0.8 kg/m ³

NOTES

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● Technical documentation

From the technical area menu you can view the technical documentation divided per product lines and type of document.

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