



## Ethacryl™ SR: breaking the limits of Slump Retention

Ethacryl™ SR is tested in standard **ready-mix design** and with **Supplementary Cementitious Materials (SCM)** to highlight its benefits:

- **High Slump Retention**, at a very low dosage
- **Robustness** with Supplementary Cementitious Materials (SCM)

Being a slump keeping polycarboxylate superplasticizer, Ethacryl™ SR enables the formulator to achieve an **excellent control of the fluidity over the time**.

This new generation of high-performance aqueous dispersant has

been designed to be **used alone** in concrete applications.

Ethacryl™ SR is a **High Water Reducing agent (>25%)** with a **low stickiness effect** on the fresh concrete.

### Concrete test 1: Standard Ready-Mix Design

W/C	Unit Weight (kg/m <sup>3</sup> )				
	W	C	S(0-4mm)	G1(4-10mm)	G2(10-20mm)
0.5	150	300	816	309	727

*W: water, C: cement CEM I 42,5R, S: sand, G1 and G2: rounded granulates*

PERFORMANCES	Competitor #1	Competitor #2	Competitor #3	Ethacryl™ SR + Rhealis™ Dfoam
% dry polymers /cement	0.37	0.28	0.19	<b>0.18</b>
Initial Slump (mm)	230	230	220	<b>230</b>
Slump at t=45min (mm)	230	215	195	<b>200</b>
Slump at t=90min (mm)	225	155	185	<b>185</b>
Slump at t=120min (mm)	225	55	180	<b>175</b>
Slump at t=180min (mm)	190	-	150	<b>150</b>
Initial Air entrapment (%)	3.8	3.5	3.9	<b>3.3</b>

In this example, the water reduction is at 25%.

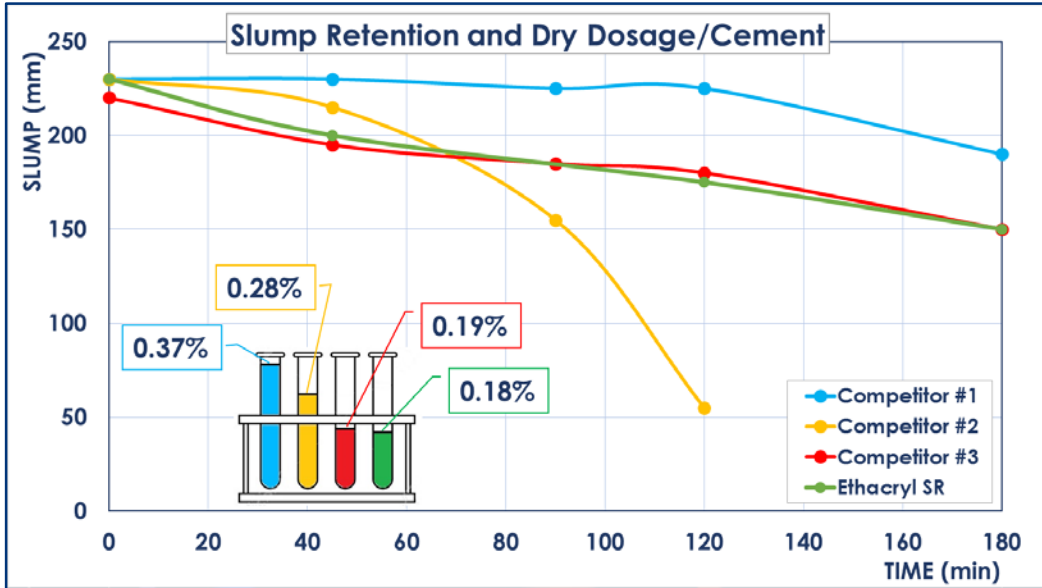
The **rheology** of the fresh concrete is **maintain over 3 hours**.

The dosage is just 0.18% of dry product / cement weight.

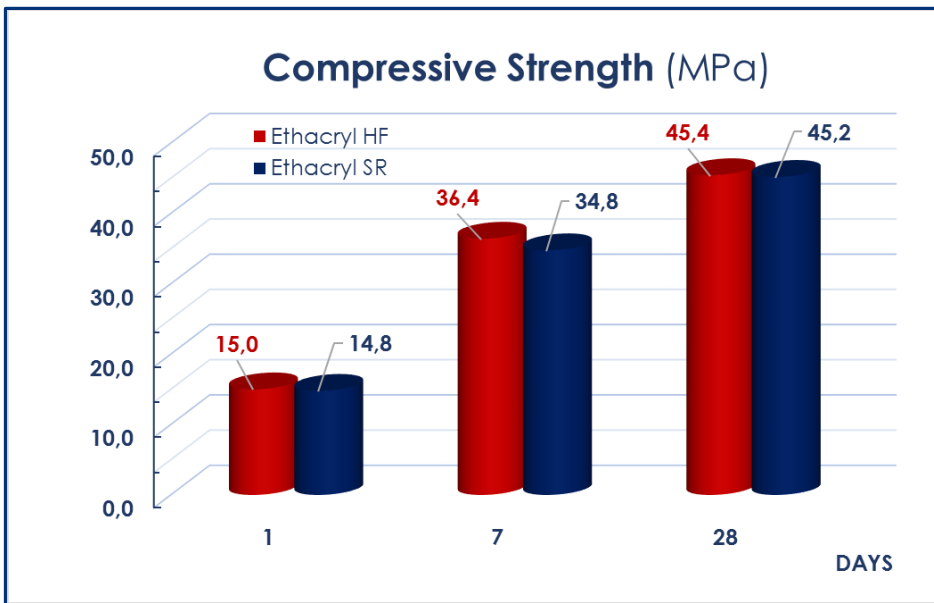
We have just add 0.5% of our defoamer vs Ethacryl™ SR quantity.



### Concrete test 1: Standard Ready-Mix Design



### Concrete test 1: Mechanical Performances



Any retarding effect is observed with our **Ethacryl™ SR** and compared to a High Performance product like our **Ethacryl™ HF**, the **Compressive Strength** values are **similar**.



## Concrete test 2: Robustness with Supplementary Cementitious Materials (SCM)

W/C	Unit Weight (kg/m <sup>3</sup> )					
	W	C	FA	SLA	S(0-4mm)	St
0.43	175	250	70	80	734	1100

W: water, C: cement CEM I 42,5R, FA: Fly Ash, SLA: Slag, S: sand, St: Stone

PERFORMANCES	Ethacryl™ SR + Rhealis™ Dfoam
% dry polymers /cement	0.18
Initial Slump (mm)	220
Slump at t=1h (mm)	210
Slump at t=2h (mm)	170
Initial Air entrapment (%)	3.3

In this case, **Ethacryl™ SR** enables concrete to maintain **high workability over time**, and is **fully compatible** with **SCM**.

## Concrete test 3: Self Compacting Concrete with SCM

W/C	Unit Weight (kg/m <sup>3</sup> )					
	W	C	FA	S(0-4mm)	G1(4-10mm)	G2(10-20mm)
0.36	164	338	112	830	291	583

W: water, C: cement CEM I 42,5R, FA: Fly Ash, S: sand, G1 and G2: rounded granulates

PERFORMANCES	Ethacryl™ SR + Retarder
Total <b>liquid dosage</b> /cement	1.10%
Initial Slump Flow (mm)	670
Slump Flow at t=1h (mm)	670
Slump Flow at t=2h (mm)	620
Slump Flow at t=3h (mm)	580
Slump Flow at t=3.5h (mm)	385

In this last example, we used an addition of retarder and the dosage represents the quantity of admixture used. With this combination, **Ethacryl™ SR** enables Self Compacting Concrete to maintain **high workability** and **high Slump Flow** level over time, without any required vibration for placing and compaction.