



FORMIX

Concrete Mixtures

FORMFLOW-R

Retarded Set Plasticiser

The inclusion of **FORMFLOW-R** in a concrete mix will provide similar characteristics and benefits to those provided by **FORMFLOW-S** Standard Setting Plasticiser. In addition to this it will also reduce the rate of hydration of the cement, to retard initial and final set, as well as reduce the peak temperature resulting from the hydration process thereby minimising the risk of cracking.

Due to these characteristics the inclusion of **FORMFLOW-R** in a concrete mix, as well as providing all the benefits obtained from the use of **FORMFLOW-S** Standard Set Plasticiser will also facilitate

- 1 Longer time available between mixing and placing
- 2 Avoidance of cold joints between pours
- 3 Pours of greater volume with reduced risk of cracking

Use

70-560 ml. **FORMFLOW-R** to 50 kilos Portland Cement, added to the gauging water or pre-wetted mix. Suitable for use with all types of Portland Cement.

Composition

A concentrated aqueous solution of modified lignin based water reducing agent containing no chlorides or nitrates.

Typical Effect of Temperature on Final Setting Time

Tests carried out on a mortar consisting of 3 parts sand to 1 part cement by weight with water/cement ratio of 0.58. Final set recorded as being equivalent to a compressive strength of 3.5 N/mm² measured by Proctor Penetrometer.

ADOFLOW-R Per 50 Kg Cement	Approx. Time to Final Set (hrs)		
	10°C	20°C	30°C
None	12	8.5	5
100 ml	13.5	9.5	6
250 ml	16.5	12	8
500 ml	22	18	13.5

Typical Effect on Slump and Compressive Strengths

Test carried out on concrete mixes with aggregate/cement ratio 4.7:1, water/cement ratio adjusted to give equal initial slump and initial mix temperature and curing temperature 20°C.

formworkdirect.co.uk
TEL:
(+44) (0)151 532 0179
EMAIL
sales@formworkdirect.co.uk



formworkdirectmalta.com
TEL:
+356 2124 4241
EMAIL
formworkdirect@polidano-group.com



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FORMFLOW-R Slump	W/C	Initial	Approx. Time	Compressive Strength Mpa.		
				3 Days	7 Days	28 Days
None	0.58	65 mm	2 Hrs	16.6	27.4	42.8
140 ml	0.52	65 mm	3.5 Hrs	16.4	28.8	47.2
280 ml	0.49	65 mm	5 Hrs	16.7	31.3	52.3
560 ml	0.46	65 mm	6.5 Hrs	17.1	32.2	55.1

Note: 1 MPa. = 1N/mm² = 145 psi

It is generally found that when **FORMFLOW-R** is added to a concrete mix and water/cement ratio adjusted to give equal slump to the control mix, 3 day strengths are similar to those of the control mix, whilst 7 day and 28 days strengths are up to 15% and 30% greater respectively.

Storage

Protect from freezing. In the event of freezing, material should be completely thawed and then thoroughly mixed before use.

Specification Clause

FORMFLOW-R Retarded Set Plasticiser manufactured in the UK for **Formwork Direct International** Limited, shall be added to the concrete mix in accordance with the manufacturers recommendations.

Health & Safety

FORMFLOW-R is non-flammable. Any splashes should be washed well with water. If contact with eyes occurs wash thoroughly with water, if irritation persists seek medical advice.

Refer to separate **FORMFLOW-R** Health and Safety leaflet.

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