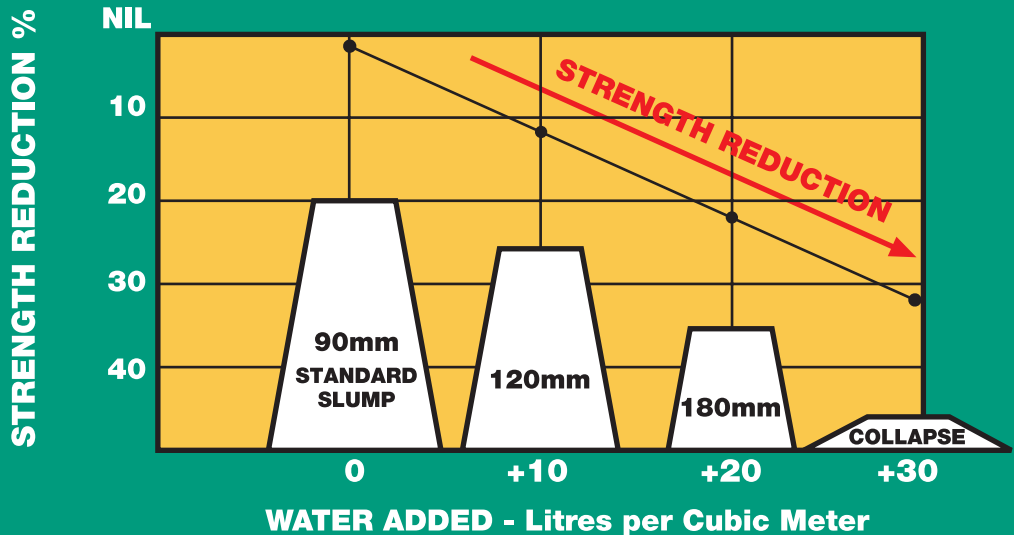




**EFFECT OF ADDITION OF
EXCESS WATER ON CONCRETE
STRENGTH AND SLUMP**

(Based on 25 MPa concrete at 90mm slump)

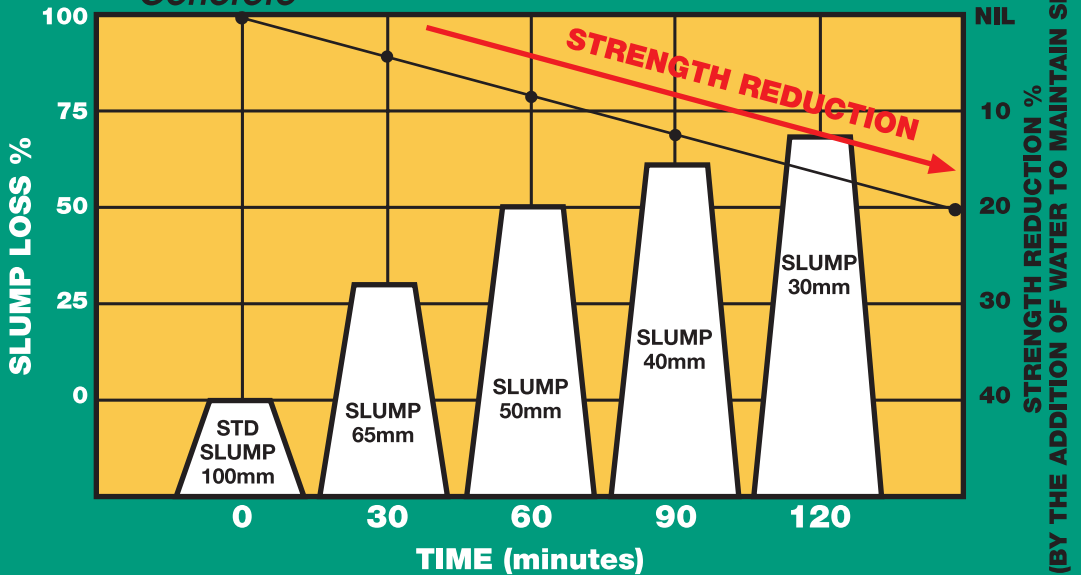


**NOTES ON THE EFFECT OF THE ADDITION OF EXCESS
WATER ON CONCRETE STRENGTH AND SLUMP**

The standard concrete as supplied by Pronto Readymix Concrete is designed to have a consistency of 90mm (plus or minus 15mm) as measured by the slump test. Pump mixes are designed to have a workability of 100mm - 125mm. Provided the concrete is within these workability parameters it will meet the design strength requirements even if on arrival on site of the concrete, it is necessary to add water in order to meet these workability parameters.

Should the desired workability be greater than what we have designed the mix for, the responsible person on site will, at his own risk have to authorize it by instructing the driver to do so.

**EFFECT OF TIME ON
SLUMP LOSS**
(Highveld autumn conditions)



**NOTES ON THE EFFECT OF SLUMP LOSS DUE TO TRUCKS
STANDING EXCESSIVELY ON SITE**

The quoted workability applies to the concrete "on arrival on site". Concrete loses moisture and workability the longer it stands. It is for this reason that the site must be ready for concrete. The extra addition of water to compensate for workability loss due to delays will adversely affect the strength, especially in summer. It is for this reason that standing times are not allowed to exceed half an hour.

TIME STANDING ON SITE	SLUMP LOSS %	REQ WATER TO MAINTAIN SLUMP AT 75-100mm	% STRENGTH LOSS
30	35	8 litre/m ³	5%
60	50	10 litre/m ³	10%
90	60	12 litre/m ³	15%
120	70	17 litre/m ³	20%

The above estimates can be considered as conservative. Adverse weather conditions, more so in summer, as well as fine aggregate type will greatly effect slump losses far in excess to that which is depicted.

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