

# LABORATORY REPORT

## INTRUSION AID<sup>®</sup> "R" Grout Fluidifier (ASTM C937 & CRD-C619)

The data given herein is representative of one combination of materials and is not to be construed as being indicative of every combination of materials. It is advisable to perform tests using project approved materials.

Two grout mixtures were proportioned, by weight, as follows:

- 2 Parts Type 1 Portland Cement
  - 1 Part of Class F Fly Ash, and
  - 3 Parts of Fine Aggregate meeting the requirements of ASTM C637, Table 2 - Grading 1.
- Intrusion Aid R at 1% by weight of cementitious (in second mix)

Test results are given in the tabulation below:

TITLE	DESIGNATION		SPECIFICATION	CONTROL	INTRUSION AID <sup>®</sup> "R"
	ASTM	CRD			
Time of Efflux (Flow Cone)	C939	C611	21± 2 sec	19.6 sec	20.7 sec
Expansion	C940	C613	(See Table 1)		10.2 %
Bleeding	C940	C613	2%, max	----	0.7 %
Water Retentivity	C941	C612	60% increase, min	----	82% increase
Water Reduction	C941	C612	3 % of control, min	----	6.3 %
Compressive Strength	C942	C616	90% of control, min	7 days - 2800 psi 28 days - 4665 psi	7 days - 2850 psi 28 days - 4725 psi
Time of Setting	C953	C614	I.S. 4 hr, min F.S. 24 hr, max	I.S. 5 hr F.S. 6 hr	I.S. 10 hr F.S. 11 hr

Alkali Content of Cement, % Expressed as Na <sub>2</sub> O	Expansion Limit, %
0.80 or more	7 to 14
0.40 to 0.79	5 to 12
0.39 or less	3 to 9