

**RETARDING ADMIXTURE FOR USE IN PORTLAND CEMENT CONCRETE**

<u>BRAND</u>	<u>DOSAGE RATE</u>	<u>MANUFACTURER</u>
BV3	3-9 oz/100# Cement (266.1 mL / 45.4 kg ) *5-9 oz./100# Cement (147.8 - 266.1 mL )	Addiment, Inc. P.O. Box 47520
VZ4	2-8 oz/100# Cement (59.1 - 236.6 mL /45.4 kg) *4-8 oz./100# Cement (118.3 - 236.6 mL )	Atlanta, GA 30362
VZ4/W	2-8 oz/100# Cement (59.1 - 236.6 mL / 45.4 kg ) *4-8 oz/100# Cement (118.3 - 236.6 mL ) <i>*(Classed as a Type D at this dosage rate.)</i>	
Daratard 17	2-8 oz/100# Cement (59.1-236.6 mL/ 45.4 kg)	W. R. Grace
Daratard HC	2-4 oz/100# Cement (59.1-118.3 mL / 45.4 kg)	P. O. Box 2585
Recover	2-50 oz/100# Cement (59.1-1477.5 mL / 45.4 kg )	Houston, TX 77252
WRDA-35	5-8 oz/100# Cement (325-520 mL / 100 kg )	(713) 223-8353
WRDA-79	7.5-15 oz/100# Cement (221.8-443.6 mL / 45.4 kg )	
WRDA-82(Type D)	3-10 oz/100# Cement (88.7- 295.7 mL / 45.4 kg )	
WRDA with Hycol	4.5-8 oz/100# Cement (133.1-236.6 mL / 45.4 kg)	
Zyla 610	2-7 oz/100# Cement (59.1- 206.5 mL / 45.4 kg)	
Zyla R	2-8 oz/100# Cement (59.1- 236.6 mL / 45.4 kg)	
Eucon LR	*6 oz per Sack (177 mL / 42.6 kg)	The Euclid Chemical Co.
Eucon NR	4 oz/100# Cement (118.3 mL / 45.4 kg)	19218 Redwood Rd.
Eucon TR	2-8 oz/100# Cement (59.1 - 236.6 mL / 45.4 kg)	Cleveland,OH
Eucon Retarder 75	3-5 oz/100# Cement (88.7-147.8 mL / 45.4 kg)	44110 (800) 321-7628
Eucon Retarder 100	2.5 - 5.0 oz/100# Cement (73.9-147.8mL / 45.4 kg)	
Eucon WO	4-16 oz/100# Cement (118.3 – 473.2 mL / 45.4 kg)	
Eucon WR	2-10 oz/100# Cement (59.1- 295.7 mL / 45.4 kg)	
Eucon WR –91	3-8 oz/100# Cement (88.7-236.6 mL / 45.4 kg) <i>*(Classed as a Type D at this dosage rate.)</i>	
FR-1	1.5 – 2.0 oz. per 100# Cement (1.0 – 1.2 g /kg)	Fritz-Pak Corp. 4821 Eastover Circle
Mini Delay Set	3.0 – 5.0 oz. per 100# Cement	Mesquite, TX 75149
Standard Delay Set	(2.0 – 3.0 g /kg )	
HPS-R	* 5-8 oz/100# Cement ( 147.8-236.6 mL / 45.4 kg)	Hunt Process Corp Southern P. O. Box 688 Ridgeland, MS 39158 (601) 856-8811
	<i>*(Classed as a Type D at this dosage rate.)</i>	

LC-400R	3-6 oz/100# Cement (200 - 390 mL / 100 kg )	RussTech, Inc. 11208 Decimal Dr. Louisville, KY 40299 502-267-7700
Masterpave	4-10 oz/100# Cement (118.3 - 295.7 mL / 45.4 kg)	BASF Admixtures, Inc. (formerly Degussa & Master Builders)
Pozzolith 80	4-10 oz/100# Cement (118.3 - 295.7 mL / 45.4 kg)	23700 Chagrin Blvd. Cleveland, OH. 44122 (216) 831-7500
Pozzolith 100XR	3-5 oz/100# Cement (88.7 - 147.8 mL / 45.4 kg)	
Pozzolith 200N	3-6 oz/100# Cement (88.7 - 176.4 mL / 45.4 kg)	
Pozzolith 300R	3-5 oz/100# Cement (88.7 - 147.8 mL / 45.4 kg)	
Pozzolith 961R	3-5 oz/100# Cement (88.7 - 147.8 mL / 45.4 kg)	
Delvo Stabilizer	4 ± 1 fl. oz/100# Cement (260 ± 65 mL / 100 kg)	
Polychem R (Type D)	2-5 oz/100# Cement (59.1 - 147.8 mL / 45.4 kg )	General Resource Technology 2978 Center Court Eagan, MN. 55121-1257 (651) 454-4151
Sika Plastiment (Type D)	2-6 oz/100# Cement (59.1 - 176.4 mL / 45.4 kg )	Sika Corporation New Construction 315 N. Ebrite Street Mesquite, TX. 75149 (972) 289-6480

**METHOD OF DOCUMENTATION OF ACCEPTANCE:** By brand and manufacturer.

## REQUIREMENTS FOR CONCRETE RETARDERS

The following procedure is to be used in acquiring approval of retarding agents:

1. The manufacturer/supplier shall provide the Materials Division with a test report from a recognized laboratory indicating compliance with AASHTO M 194, Standard Specification for Chemical Admixtures for Concrete. A recognized laboratory is any State Highway Agency, Federal Highway Administration or independent laboratory regularly inspected by the National Institute of Standards and Technology. All test reports shall include the manufacturer's name, brand name of the material, and date of testing.
2. In addition to the requirements of the AASHTO Specification, the manufacturer/supplier shall include:
  - A. The type material, B or D - (B: Retarding admixture, or D: Water-reducing and retarding admixture).
  - B. The constituents of the retarder (Example - This material is a solution of calcium salt of lignosulphonic acid).
  - C. The chloride content of the admixture and whether or not chloride was added during its manufacture.
  - D. Recommended dosage rate.
  - E. Uniformity and equivalence tests according to AASHTO M 194 to provide results against which later comparison can be made. Where the nature of the admixture or the Department's testing capabilities may make some or all of the procedures unsuitable, other requirements may be established by agreement between the Department and the manufacturer.
3. A sample of the retarding agent will be supplied to the Materials Division at the following address. Product information and Material Safety Data Sheets must be included.

Box 2261	or	11301 Baseline Road
Little Rock, AR 72203		Little Rock, AR 72209
4. If the product meets material requirements, the product will be approved for inclusion after receipt of a signed QPL certification.
5. Destination samples will be taken as deemed necessary to assure compliance with specifications. Material failures either in the laboratory or in field applications may be considered sufficient cause to reject the material. The Materials Engineer will determine if the failures warrant discontinuing acceptance and removal from this QPL.