APPROVED SOURCES
RETARDING, AND WATER REDUCING & RETARDING ADMIXTURES FOR BRIDGE DECK CONCRETE WHEN EXTENDED WORKING TIME IS REQUIRED

GUIDELINES FOR DOSAGE RATES WITH ANTICIPATED WORKING TIME LIMITS

1. Dosage is in fluid ounces per 100 lbs. (mL/kg) of cement, fly ash, and ggbfs.

2. Check percent of air as retarding admixtures tend to increase air contents

Working time limits for various cements with -NO RETARDER

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	0	3.8	4.8	5.8
65	18	0	3.1	3.8	4.6
75	24	0	2.5	3.0	3.5
85	29	0	2.2	2.5	2.7
95	35	0	1.9	1.9	1.9

Working time limits for various cements with – Plastiment

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	2 (1.3)			
		3 (2.0)			
		4 (2.6)			
		5 (3.3)			
65	18	3 (2.0)	5.1	5.8	6.6
		4 (2.6)	7.1	7.8	8.7
		5 (3.3)	11.4	12.0	13.0
		6 (3.9)	20.2	20.8	19.0
75	24	3 (2.0)	3.6	4.0	4.2
		4 (2.6)	4.7	5.1	5.4
		5 (3.3)	6.9	7.4	7.8
		6 (3.9)	10.9	11.4	12.1
		7 (4.6)	18.9	19.3	20.5
85	29	3 (2.0)	3.0	3.3	3.1
		4 (2.6)	3.6	3.9	3.8
		5 (3.3)	4.9	5.1	5.1
		6 (3.9)	6.9	7.1	7.2
		7 (4.6)	10.2	10.5	10.3
95	35	3 (2.0	2.2	2.2	2.2
		4 (2.6)	2.7	2.7	2.7
		5 (3.3)	3.5	3.5	3.5
		6 (3.9)	4.9	4.9	4.9
		7 (4.6)	7.4	7.4	7.4
		8 (5.2)	12.1	12.1	12.1

Working time limits for various cements with – Pozzolith 100XR

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS , IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	2 (1.3)			
		3 (2.0)			
		4 (2.6)			
		5 (3.3)			
65	18	3 (2.0)	9.0	9.7	10.5
		4 (2.6)			
		5 (3.3)			
		6 (3.9)			
75	24	3 (2.0)	6.1	6.6	7.1
		4 (2.6)	7.8	8.3	8.8
		5 (3.3)	9.2	9.7	10.2
		6 (3.9)			
		7 (4.6)			
85	29	3 (2.0)	5.2	5.5	5.7
		4 (2.6)	6.7	7.0	7.2
		5 (3.3)	8.1	8.4	8.6
		6 (3.9)			
		7 (4.6)			
95	35	3 (2.0)	4.5	4.5	4.5
		4 (2.6)	6.0	6.0	6.0
		5 (3.3)	7.4	7.4	7.4
		6 (3.9)			
		7 (4.6)			
		8 (5.2)			

Working time limits for various cements with – Daratard 17

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	2 (1.3)			
		3 (2.0)			
		4 (2.6)			
		5 (3.3)			
65	18	3 (2.0)			
		4 (2.6)			
		5 (3.3)			
		6 (3.9)			
75	24	3 (2.0)	4.3	4.7	5.3
		4 (2.6)	6.6	7.1	7.6
		5 (3.3)	7.6	8.1	8.6
		6 (3.9)			
		7 (4.6)			
85	29	3 (2.0)	4.3	4.6	4.8
		4 (2.6)	5.2	5.5	5.7
		5 (3.3)	6.5	6.8	7.0
		6 (3.9)			
		7 (4.6)			
95	35	3 (2.0)	3.9	3.9	3.9
		4 (2.6)	4.4	4.4	4.4
		5 (3.3)	5.7	5.7	5.7
		6 (3.9)			
		7 (4.6)			
		8 (5.2)			

Working time limits for various cements with – Eucon Retarder 100

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	2 (1.3)			
		3 (2.0)	9.6	10.6	11.6
		4 (2.6)	10.4	11.4	12.4
		5 (3.3)	12.3	13.3	15.3
65	18	3 (2.0)	8.2	8.9	9.7
		4 (2.6)	10.0	10.7	11.5
		5 (3.3)	11.7	12.4	13.2
		6 (3.9)	12.9	13.6	14.4
75	24	3 (2.0)	7.5	8.0	8.5
		4 (2.6)	9.9	10.4	10.9
		5 (3.3)	11.9	12.4	12.9
		6 (3.9)	12.5	13.0	13.5
		7 (4.6)			
85	29	3 (2.0)	6.8	7.1	7.3
		4 (2.6)	9.6	9.9	10.1
		5 (3.3)	11.9	12.2	12.4
		6 (3.9)	11.9	12.2	12.4
		7 (4.6)			
95	35	3 (2.0)	6.8	6.8	6.8
		4 (2.6)	9.9	9.9	9.9
		5 (3.3)	11.8	11.8	11.8
		6 (3.9)	11.8	11.8	11.8
		7 (4.6)			
		8 (5.2)			

Working time limits for various cements with – Catexol 1000R

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	2 (1.3)	4.5	5.5	6.5
		3 (2.0)	5.5	6.5	7.5
		4 (2.6)	7.0	8.0	9.0
		5 (3.3)			
65	18	3 (2.0)	4.8	5.5	6.3
		4 (2.6)	5.6	6.3	7.1
		5 (3.3)	6.8	7.5	8.3
		6 (3.9)			
75	24	3 (2.0)	5.2	5.7	6.2
		4 (2.6)	5.7	6.2	6.7
		5 (3.3)	6.7	7.2	7.7
		6 (3.9)			
		7 (4.6)			
85	29	3 (2.0)	4.8	5.1	5.3
		4 (2.6)	5.4	5.7	5.9
		5 (3.3)	6.2	6.5	6.7
		6 (3.9)			
		7 (4.6)			
95	35	3 (2.0)	4.5	4.5	4.5
		4 (2.6)	5.1	5.1	5.1
		5 (3.3)	5.7	5.7	5.7
		6 (3.9)	6.5	6.5	6.5
		7 (4.6)			
		8 (5.2)			

Working time limits for various cements with – Pozzolith 300R

Mix Temp at point of discharge		Dosage	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	fl. oz. (ml/kg)	hours	hours	hours
55	13	2 (1.3)	4.5	5.5	5.5
		3 (2.0)	5.3	6.3	6.3
		4 (2.6)	6.8	7.8	8.8
		5 (3.3)			
65	18	3 (2.0)	4.6	5.3	6.1
		4 (2.6)	5.5	6.2	7.0
		5 (3.3)	6.8	7.5	8.3
		6 (3.9)			
75	24	3 (2.0)	4.7	5.2	5.7
		4 (2.6)	6.0	6.5	7.0
		5 (3.3)	7.2	7.7	8.2
		6 (3.9)			
		7 (4.6)			
85	29	3 (2.0)	4.6	4.9	5.1
		4 (2.6)	5.3	5.6	5.8
		5 (3.3)	6.4	6.7	6.9
		6 (3.9)			
		7 (4.6)			
95	35	3 (2.0)	4.1	4.1	4.1
		4 (2.6)	4.7	4.7	4.7
		5 (3.3)	5.6	5.6	5.6
		6 (3.9)	6.6	6.6	6.6
		7 (4.6)			
		8 (5.2)			

Working time limits for various cements with – Recover

Mix Temp at point of discharge		Dosage Rate	Type I/II, no fly ash	Type I/II with fly ash	Type IS, IP with fly ash
°F	°C	(oz/cwt)	hours	hours	hours
75	24	0	3.2	4.2	5.2
		3	4.8	5.8	6.8
		4	5.5	6.5	7.5
		5	6.3	7.3	8.3
		6	7.6	8.6	9.6
85	29	0	2.9	3.9	4.9
		3	4.4	5.4	6.4
		4	4.7	5.7	6.7
		5	5.3	6.3	7.3
		6	6.0	7.0	8.0
95	35	0	2.2	3.2	4.2
		3	2.8	3.8	4.8
		4	3.0	4.0	5.0
		5	3.7	4.7	5.7
		6	4.5	5.5	6.5