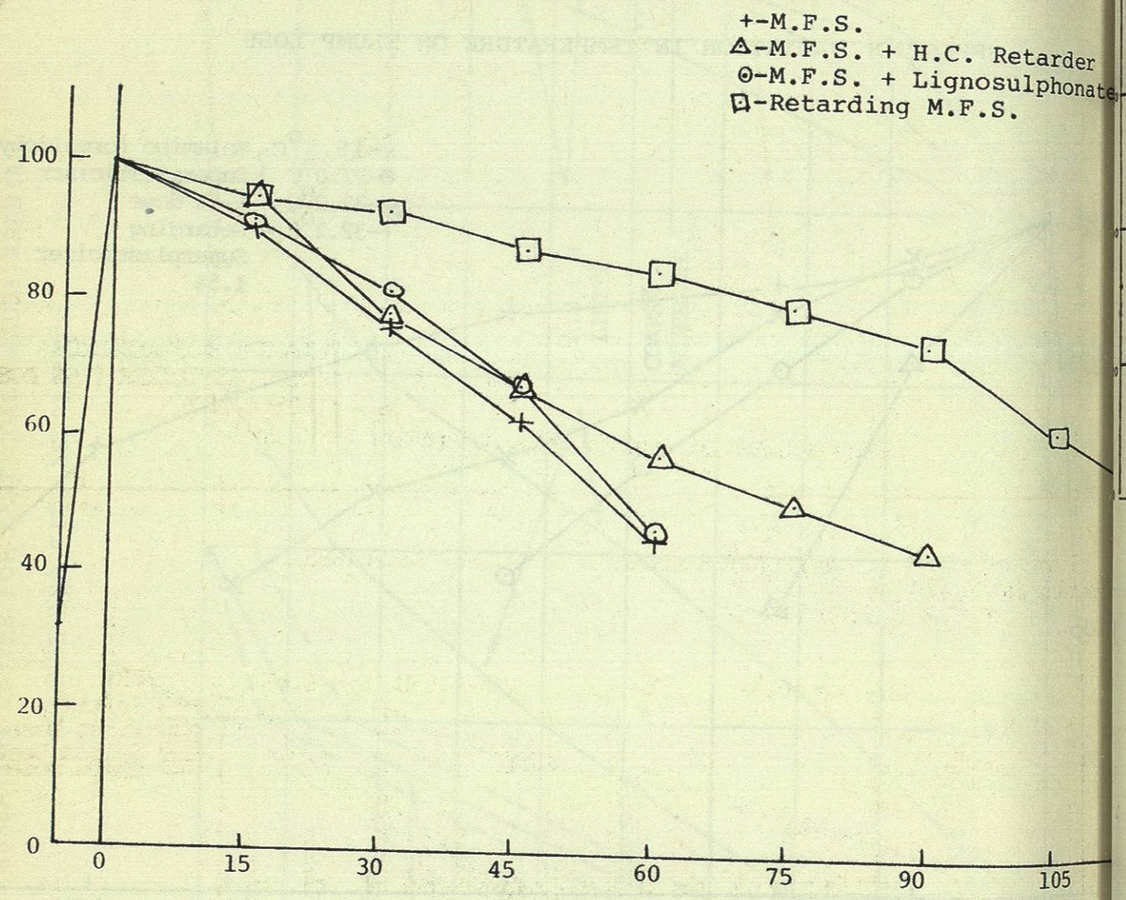
FIG. III

EFFECT OF COMBINED ADMIXTURES ON SLUMP LOSS

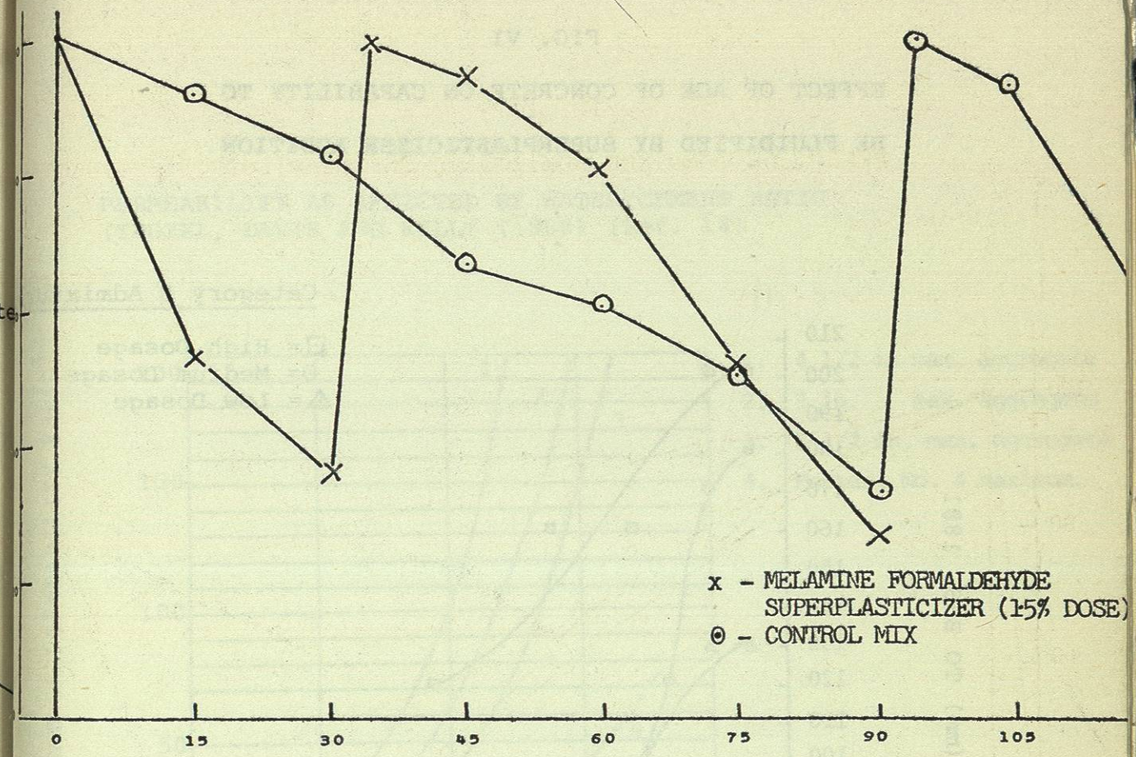


TIME AFTER ADDITION OF SUPERPLASTICIZER

(Ref. 5)

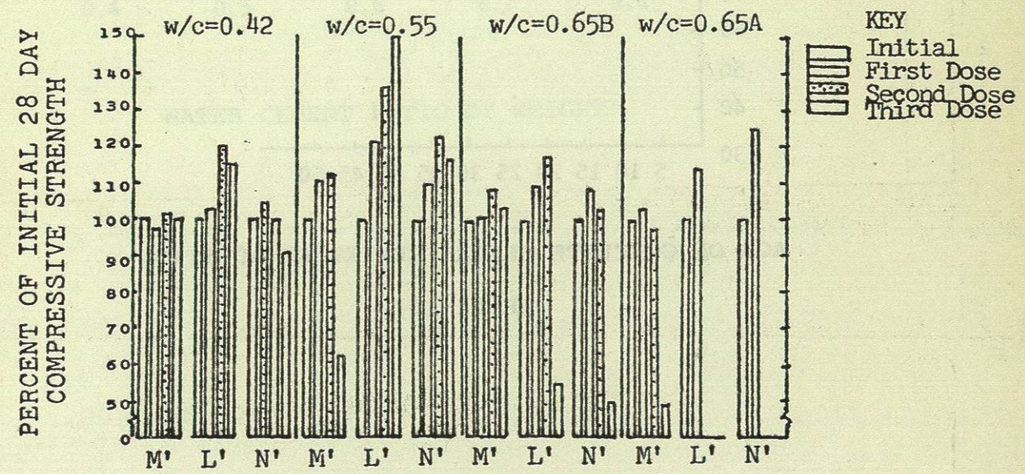
FIG. IV

EFFECT OF REDOSAGE ON SLUMP LOSS



TIME AFTER ADDITION OF SUPERPLASTICIZER

(Ref. 5)



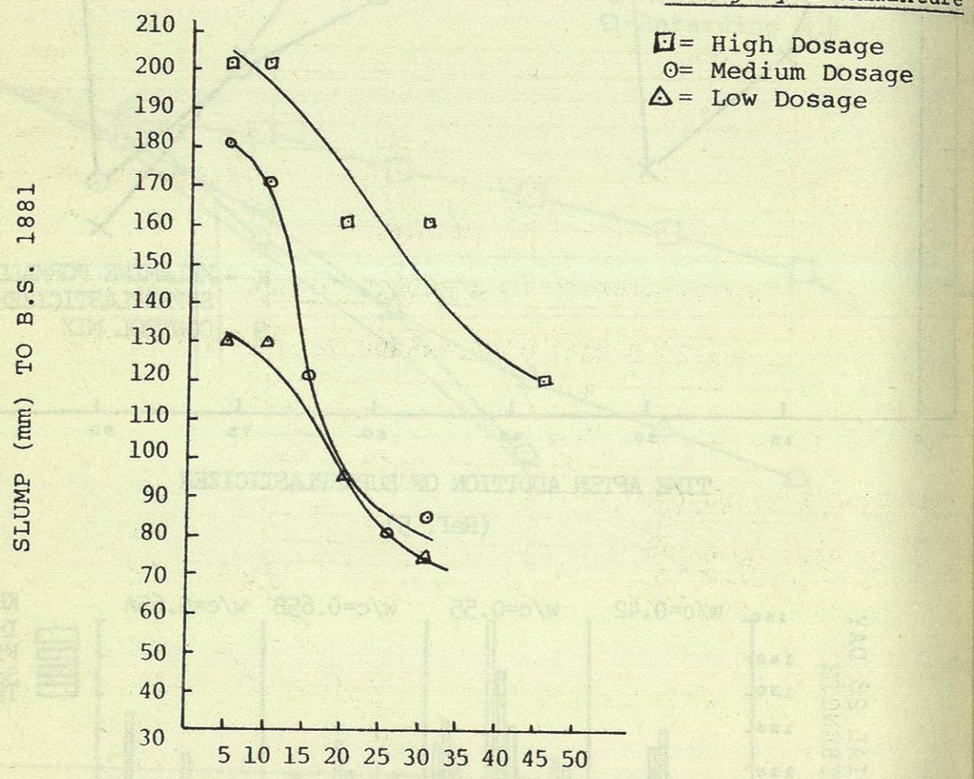
SUPERPLASTICIZER TYPE

FIG. V EFFECT OF RE-DOSING OF SUPERPLASTICIZERS ON COMPRESSIVE STRENGTH OF CONCRETE

(Ref. 8)

FIG. VI

EFFECT OF AGE OF CONCRETE ON CAPABILITY TO BE FLUIDIFIED BY SUPERPLASTICIZER ADDITION



(Ref. 10)

FIG. VII

PERMEABILITY AS AFFECTED BY WATER/CEMENT RATIO (TROXEL, DAVIS AND KELLY (1968) (Ref. 14)

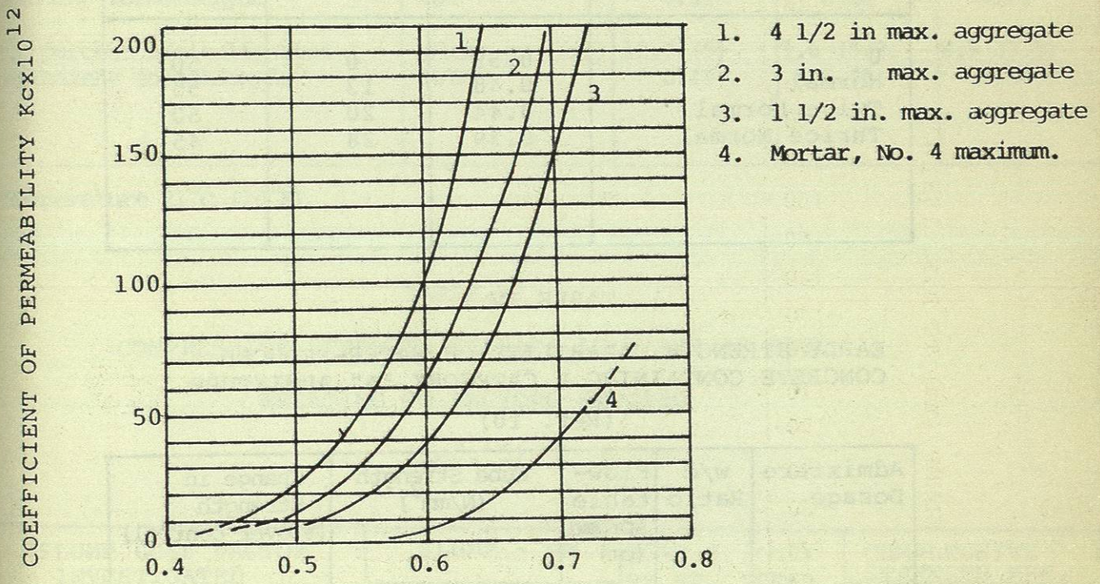


TABLE III

WATER REDUCTIONS USING A CATEGORY B SUPERPLASTICIZER

(Ref. 10)

Admixture Dosage	w/c ratio	Water reduction %	Slump mm
0	0.6	0	100
Normal	0.57	5	100
Twice Normal	0.52	15	100
Thrice Normal	0.48	20	100
0	0.55	0	50
Normal	0.48	13	55
Twice Normal	0.44	20	50
Thrice Normal	0.39	28	45

TABLE IV

EARLY STRENGTH CAPABILITY OF WATER-REDUCED CONCRETE CONTAINING A CATEGORY "A" ADMIXTURE

(Ref. 10)

Admixture Dosage	w/c Ratio	Flow-table spread (cm)	Cube Strength (N/mm^2)		Change in Strength (% over control)	
			1 day	7 days	1 day	7 days
0	0.42	41.5	18.0	54.9	--	--
Normal	0.36	42.0	38.0	62.5	+111	+14
Double	0.33	51.0	49.6	76.3	+176	+39
Quadruple	0.32	43.0	49.1	75.8	+173	+38

TABLE V

EFFECT OF WATER-REDUCING ADMIXTURES ON RETEMPERING

(Ref. 7)

CEMENT B*		Time min.		
		10	120	126
Reference	Slump cm (in.)	13.3(5 1/4)	3.5 (1 3/8)	9.8 (3 7/8)
	W/C	0.58	0.58	0.66
1.0 percent s/s sulfonated melamine formaldehyde	Slump cm (in.)	11.4(4 1/2)	2.9 (1 1/8)	8.6 (3 3/8)
	W/C	0.51	0.51	0.59
1.0 percent s/s sulfonated napthalene formaldehyde	Slump cm (in.)	12.7 (5)	1.6 (5/8)	8.9 (3.5)
	W/C	0.45	0.45	0.54

*Temperature 21°C (70°F)

TABLE VI

COMPRESSIVE STRENGTH RESULTS AT 7 AND 28 DAYS

RELATING TO FACTORS STUDIED

(Ref. 5)

SLUMP LOSS FACTOR INVESTIGATED	SLUMP - mm		DOSE % BY WT. OF CEMENT	MIX TEMP. T C°	COMPRESSIVE STRENGTH MPa.	
	INITIAL	FINAL*			7 day	28 day
TEMPERATURE						
M-L1-SUPERPLASTICIZER	75	230	1.5	15.5	33.4	40.0
M-L1-SUPERPLASTICIZER	75	220	1.5	22.0	32.2	38.0
M-L1-SUPERPLASTICIZER	75	230	1.5	32.0	29.7	34.3
M-R1-SUPERPLASTICIZER	75	250	1.5	32.0	33.1	35.5
REDOSAGE						
M-L1	75	230	1.5	32.0	30.4	35.1
STANDARD	--	230	---	32.0	18.8	23.9
COMBINED ADMIXTURES						
CLS (0.45%)+M-L1(1.5%	75	220	1.5	23	36.7	39.5
HCR (0.2%)+M-L1(1.5%)	75	240	1.5	22	37.1	39.5
M-L1	75	220	1.5	22	32.2	38.0
M-R1	75	250	1.5	23	32.0	35.9

INITIAL SLUMP 75 ± 10 mm FOR MOST MIXES TAKEN JUST BEFORE ADDITION OF SUPERPLASTICIZER.
CYLINDERS CAST AFTER ADDITION OF SUPERPLASTICIZER.
* FINAL SLUMP DENOTES THAT MEASURED AFTER ADDITION OF SUPERPLASTICIZER.
+ M-R1 RETARDING SUPERPLASTICIZER (1.5% BY WEIGHT OF CEMENT)


UNIVERSIDAD AUTONOMA DE NUEVO LEON
ALIUM FLAMMAM
VERITATIS