

Lampiran 1 Factors Affecting Concrete Creep and Shrinkage and ariables Considered in The Recommended Prediction Method.

Factors		Variables Considered	Standard Conditions	
Concrete (Creep & Shrinkage)	Concrete Composition	Cement Paste Content	Type of cement	Type I and III
		Water-Cement Ratio	Slump	70 mm
		Mix Proportions	Air Content	≤ 6 percent
		Aggregate Characreristics	Fine Aggregate Percentage	50 percent
		Degree of Compaction	Cement Content	279 to 446 kg/m ³
	Initial Curing	Length of Initial Curing	Moist Cured	7 days
			Steam Cured	1-3 days
		Curing Temperature	Moist Cured	23 ± 2 °C
			Steam Cured	≤ 100 °C
		Curing Humidity	Relative Humidity	≥ 95 percent
Member Geometri and Environment (Creep & Shrinkage)	Environment	Concrete Temperature	Concrete Temperature	23 ± 2 °C
		Concrete Water Content	Ambient Relative Humidity	40 percent
	Geometri	Size and Shape	Volume-Surface Ratio, (v/s)	38 mm
			Minimum Thikness	150 mm
Loading (Creep Only)	Loading History	Concrete age at Load	Moist Cured	7 days
		Application	Steam Cured	1-3 days
		Duration of Loading Period	Sustained Load	Sustained Load
		Duration of Unloading Period	-	-
		Number of Load Cycles	-	-
	Stress Condition	Type of Strees and Distribution Across the Section	Compressive Stress	Axial Compression
		Stress/Strength Ratio	Stress/Strength Ratio	≤ 0,50

Lampiran 2 Values of the constants a , β and a/β and the time ratio from Eqs. (2-1) and (2-2)

Time Ratio	Type of curing	Cement type	Constants a , β and a/β	Concrete Age										Ultimate (In time)
				Days								Years		
				3	7	14	21	28	56	91	1	10		
$(f'_c)_t / (f'_c)_{28}$ Eq. (2-1)	Moist	I	$a = 4,0 ; \beta = 0,85$	0,46	0,70	0,88	0,96	1,0	1,08	1,12	1,16	1,17	1,18	
	Cured	III	$a = 2,3 ; \beta = 0,92$	0,59	0,80	0,92	0,97	1,0	1,04	1,06	1,08	1,09	1,09	
	Steam	I	$a = 1,0 ; \beta = 0,95$	0,78	0,91	0,98	1,0	1,0	1,03	1,04	1,05	1,05	1,05	
	Cured	III	$a = 0,70 ; \beta = 0,98$	0,82	0,93	0,97	0,99	1,0	1,0	1,01	1,01	1,02	1,02	
$(f'_c)_t / (f'_c)_u$ Eq. (2-2)	Moist	I	$a/\beta = 4,71$	0,39	0,60	0,75	0,82	0,86	0,92	0,95	0,99	1,0	1,0	
	Cured	III	$a/\beta = 2,5$	0,54	0,74	0,85	0,89	0,92	0,96	0,97	0,99	1,0	1,0	
	Steam	I	$a/\beta = 1,05$	0,74	0,87	0,93	0,95	0,96	0,98	0,99	1,0	1,0	1,0	
	Cured	III	$a/\beta = 0,71$	0,81	0,91	0,95	0,97	0,97	0,99	0,99	1,0	1,0	1,0	