CEG THE CONSULTING ENGINEERS GROUP INC.
First Bank Plaza, 55 E. Euclid, Mt. Prospect, IL 60056 (708) 255-5200
8918 Tesoro Drive, San Antonio, TX 78217 (512) 828-0312
625 Imperial Way, Napa, CA 94559 (707) 252-9544

MADE BY	DATE	CHECKED BY
AHA	May 30, '90	

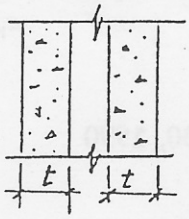
3-hr & 4-hr Insteel Walls

INSTEEL

1

JOB NUMBER 0134

Calculate fire endurance of Insteel panels with $t = 2\frac{1}{2}$", 3", & $3\frac{1}{2}$"



For carbonate aggregate concrete:

t	$R^{0.59}$	R	1.08R*
2.5	8.9	41.1	44.4
3.0	10.4	53.6	57.9
3.5	12.0	68.3	73.8

* The 1.08 accounts for the better performance of concrete with 3/8-in. maximum aggregate size compared with 3/4-in. or 1 in. M.S.A. (The factor should be 1.10, so 1.08 is conservative.)

For $t = 2.5$"

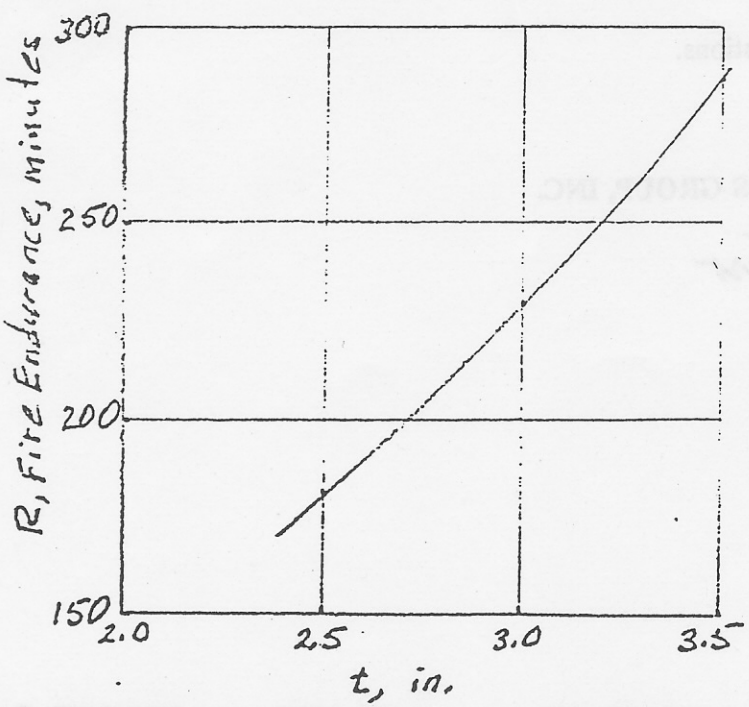
$$R = [2\,(44.4)^{0.59} + (5)^{0.59}]^{1.7} = 181.7 \text{ minutes}$$

For $t = 3.0$"

$$R = [2\,(57.9)^{0.59} + (5)^{0.59}]^{1.7} = 230.0 \text{ minutes}$$

For $t = 3.5$"

$$R = [2\,(73.8)^{0.59} + (5)^{0.59}]^{1.7} = 286.6 \text{ minutes}$$



R, minutes	t, inches
180	2.49
198	2.63
240	3.11
264	3.32