7 October 2005

Memorandum

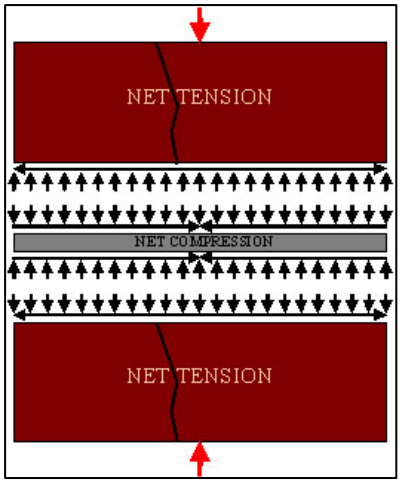
From: Student
To: Professor

Subject: COMPRESSIVE STRENGTH TESTING

1. The compressive test results for both prism and unit are below:

Group	Load kips (kN)	Stress ksi (MPa)	Group	Load kips (kN)	Stress ksi (MPa)
PCL 1	104 (463)	3.77 (26.0)	Brick 1	222 (988)	8.03 (55.4)
PCL 2	101 (449)	3.65 (25.2)	Brick 2	245 (1088)	8.85 (61.0)
MC 1	120 (534)	4.34 (29.9)	Brick 3	205 (913)	7.43 (51.2)
MC 2	93 (414)	3.36 (23.2)	Brick 4	168 (747)	6.08 (41.9)
MC 3	79 (349)	2.84 (19.6)	Brick 5	219 (972)	7.91 (54.5)
			Brick 6	279 (1239)	10.1 (69.5)
Average		3.59 (24.8)	Average		8.06 (55.6)
COV		%15	COV		%17
Note: Gross area of 3-5/8"x7-5/8" (92mm x 194mm)					

The compressive results show that the unit strength is much higher than a prisms. This is due to Poisson's ratios of brick and mortar. As the mortar is compressed vertically, it expands horizontally much more than the brick; this results in a net tension in the brick, causing it to crack earlier and usually down the center.



Very Respectfully,

STUDENT