

Internal Fiber Decision Matrix

Table 1 depicts the four criteria the team used in determining the best primary reinforcement.

Table 1: Internal Fiber Decision Matrix





	Weighing Factor	Fibermesh 150® 	Macrosynthetic Fiber Reinforcement 	FORTA-FERRO® 	NYCON-XL-PLUS 
Workability	0.15	0.45	0.15	0.00	0.30
Ability to control micro-cracking	0.50	1.50	0.00	0.50	1.00
Bonding with concrete	0.35	1.05	0.35	0.70	0.00
TOTAL	1.00	3.00	0.50	1.20	1.30

Table 2 illustrates the ranking used in Table 1 above.

Table 2: Internal Fiber Ranking

Ranking	
0	worst
1 and 2	in between
3	best

Table 3 provides reasoning behind the shown criteria.

Table 3: Criteria Reasoning

Criteria	Reasoning
Workability	Based on how well fibers do not interfere with concrete
Ability to control micro-cracking	Based on restrained ring test (test we developed based on ASTM C1581/C158iM - 09a) to observe the sizes of cracks occurring during curing process
Bonding with concrete	Based on the fibers ability to merge with the mix design without causing lamination between the two