Specification: AHC_TC22

1. Definition
    a. Emtek 31F : An engineered, stress_rated timber composite product assembled from selected and prepared wood laminations bonded together with adhesives with the grain of the laminations approximately parallel longitudinally.
2. Performance Requirements
    a. Manufactured, tested and verified in accordance with AHC_TC01: STANDARD FOR INDUSTRIAL

       MATTING, and ASTM_5456 Standard Specification for Evaluation of Structural Composite Lumber Products

3. Manufacturer Qualifications:

    a. Manufacturer shall be a third party witnessed facility, qualified under ASTM_5456, and licensed to produce Emtek under Patent #7,137,226.

    b. Factory mark each piece of Emtek with Allowable Design Load Identification and Manufacturing Facility name. Place mark on surfaces in conspicuous manner.

4. Quality Standard:

    a. Product shall be produced in accordance to the Quality Assurance program outlined in ASTM 5456

    b. All Product shall be proof loaded to 150% of stamped design load

5. Hardware Properties:

    a. All steel hardware shall be Grade A36 or higher as identified by the hardware supplier

    b. All cable hardware shall have rating tag attached to the hardware

6. Adhesive Properties:

    a. Any and All Adhesives used in the manufacture of Emtek products shall comply with ASTM 2559 Specification for Adhesives for Structural Laminated Wood Products for Use Under Exterior (Wet Use) Exposure Conditions.

7. Design Values

    a. All Emtek 31F product shall meet the following design properties as defined in ASTM 5456

emtek Design Properties

Fb = 3100 psi

Fv = 285 psi

E = 1.5 $(10)^6$ psi

Unit Section Properties

No	Size t x b	A In^2	I In^4	S In^3	M_A Kip-Ft	V_A Kip
1	3.5" x 12"	42	42.875	24.50	6.329	7.980
2	4.5" x 12"	54	91.125	40.50	10.463	10.260
3	5.5" x 12"	66	166.375	60.50	15.629	12.540
4	6.5" x 12"	78	274.625	84.50	21.829	14.820
5	7.5" x 12"	90	421.875	112.50	29.063	17.100

$A = t(b)$ $I = \frac{bt^3}{12}$ $S = \frac{bt^2}{6}$ $M_A = F_bS$ $V_A = \frac{FV_A}{1.5} \sim \left(\frac{FV\ lb}{Q}\right)$

K = KIP = 1000 lbs

M_A = Allowable Moment

V_A = Allowable Shear

emtek Design Properties *continued*

Fb = 3100 psi

Fv = 285 psi

E = 1.5 $(10)^6$ psi

Unit Section Properties

No	Size t x b	A In^2	I In^4	S In^3	M_A Kip-Ft	V_A Kip
1	8" x 12"	96	512	128	33.067	18.240
2	12" x 12"	144	1728	288	74.400	27.360
3	16" x 12"	192	4096	512	132.267	36.480
4	24" x 12"	288	13824	1152	297.600	54.720

$A = t(b)$ $I = \frac{bt^3}{12}$ $S = \frac{bt^2}{6}$ $M_A = F_bS$ $V_A = \frac{FV_A}{1.5} \sim \left(\frac{FV\ lb}{Q}\right)$

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