

# TROPICAL

#001 1123

## TRANSIT AUTHORITY – NEW YORK, NY



## PROJECT PROFILE



**TECHNICAL/ENVIRONMENTAL LEAD:** Brian Lotz

### TRANSIT AUTHORITY – NEW YORK, NY

**specification:** Ekki/Azobe and Angelim

**application:** Rail Ties

**environmental:** FSC Certified

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PROJECT PROFILE

Inputs	Wood Name	Extreme Fiber Stress in Bending "FB" Single Member	Modulus of Elasticity	Compression		Shear parallel to Grain
				Parallel to Grain	Perpendicular to Grain	
	Angelim	17,140	2,030,000	9,460	3,168	2,010

**Allowable values For Wood [Based on ASTM D245]**

*Dimension Lumber* 1" to 4" thick by 2" and wider

Wood Name	Grade	Extreme Fiber Stress in Bending "FB" Single Member	Modulus of Elasticity	Compression		Shear parallel to Grain
				Parallel to Grain II	Perpendicular to Grain	
Angelim	Architectural	4,550	2,160,000	2,750	1,895	875
	FEQ	3,600	2,160,000	2,400	1,895	435
	COM/ SEL	3,000	2,160,000	1,800	1,895	435
	FAS	3,000	2,160,000	1,800	1,895	435

Values in PSI

*Beam & Stringers* 4" and thicker, width more than 2" greater than thickness

Wood Name	Grade	Extreme Fiber Stress in Bending "FB" Single Member	Modulus of Elasticity	Compression		Shear parallel to Grain
				Parallel to Grain II	Perpendicular to Grain	
Angelim	Architectural	5,950	2,160,000	3,100	1,895	875
	FEQ	3,950	2,160,000	2,400	1,895	435
	COM/ SEL	3,000	2,160,000	1,800	1,895	435
	FAS	3,000	2,160,000	1,800	1,895	435

Values in PSI

**Additional Grading notes:**

Architectural:

- It is not allow pin knots bigger than 1/2" at any face and/or edge
- Maximum permitted slope is 1" in 10"

FEQ:

- It is not allow knots bigger than 3/4" at narrow face or edges
- It is not allow centerline knots bigger than 1-3/4" at wide face
- It is not allow edge knots bigger than 3/4" at wide face
- Maximum permitted slope is 1" in 8"
- Length of end split and surface split shall be per ASTM D245 (5.4.3)

COM/ SEL / FAS:

- It is not allow knots bigger than 3/4" at narrow face or edges
- It is not allow centerline knots bigger than 1-3/4" at wide face
- It is not allow edge knots bigger than 3/4" at wide face
- Maximum permitted slope is 1" in 6"
- Length of end split and surface split shall be per ASTM D245 (5.4.3)

**Notes:**

- Grader shall classify, measure and inspect knots, splits, checks and shakes as Standard ASTM D 245 mandates, for dimension lumber and Beams & stringers.
- Use allowable values in conjunction of adjusted coefficients.
- Results are for preliminary design only; not valid for construction unless accompanied by a sealed test report by an accredited laboratory.

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Inputs	Wood Name	Extreme Fiber Stress in Bending "FB" Single Member	Modulus of Elasticity	Compression		Shear parallel to Grain
				Parallel to Grain	Perpendicular to Grain	
	EKKI	17,800	2,010,000	8,160	2,900	1,971

**Allowable values For Wood (Based on ASTM D245)**

*Dimension Lumber* 1" to 4" thick by 2" and wider

Wood Name	Grade	Extreme Fiber Stress in Bending "FB" Single Member	Modulus of Elasticity	Compression		Shear parallel to Grain
				Parallel to Grain II	Perpendicular to Grain	
EKKI	Architectural	4,700	2,140,000	2,350	1,735	855
	FEQ	3,700	2,140,000	2,050	1,735	430
	COM/ SEL	3,100	2,140,000	1,550	1,735	430
	FAS	3,100	2,140,000	1,550	1,735	430

Values in PSI

*Beam & Stringers* 4" and thicker, width more than 2" greater than thickness

Wood Name	Grade	Extreme Fiber Stress in Bending "FB" Single Member	Modulus of Elasticity	Compression		Shear parallel to Grain
				Parallel to Grain II	Perpendicular to Grain	
EKKI	Architectural	6,200	2,140,000	2,700	1,735	855
	FEQ	4,100	2,140,000	2,050	1,735	430
	COM/ SEL	3,100	2,140,000	1,550	1,735	430
	FAS	3,100	2,140,000	1,550	1,735	430

Values in PSI

**Additional Grading notes:**

Architectural:

1. It is not allow pin knots bigger than 1/2" at any face and/or edge
2. Maximum permitted slope is 1" in 10"

FEQ:

1. It is not allow knots bigger than 3/4" at narrow face or edges
2. It is not allow centerline knots bigger than 1-3/4" at wide face
3. It is not allow edge knots bigger than 3/4" at wide face
4. Maximum permitted slope is 1" in 8"
5. Length of end split and surface split shall be per ASTM D245 (5.4.3)

COM/ SEL / FAS:

1. It is not allow knots bigger than 3/4" at narrow face or edges
2. It is not allow centerline knots bigger than 1-3/4" at wide face
3. It is not allow edge knots bigger than 3/4" at wide face
4. Maximum permitted slope is 1" in 6"
5. Length of end split and surface split shall be per ASTM D245 (5.4.3)

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