

**Table XVI –Average Properties of Buckingham Slate**

PROPERTY	TEST METHOD	VALUE
1. Classification	macroscope microscope	blue-black, micaceous, fine- grain slate
2. Absorption of Water	ASTM C121	0.104%
3. Bulk Density	ASTM C97	174.4 lb/ft <sup>3</sup>
4. Compressive Strength	ASTM C170	25,800 lb/in. <sup>2</sup>
5. Modulus of Rupture (Flexural Strength of Structural and Electrical Slate)	ASTM C120	13,000 lb/in. <sup>2</sup>
6. Modulus of Elasticity	ASTM C120, IITRI	7,014,000 lb/in. <sup>2</sup>
7. Toughness	IITRI	56 in.-lb/in. <sup>2</sup>
8. Flat Slab Strength	RP 477	4840 lb. load
9. Coefficient of Thermal Expansion	ASTM E228	0.0000062 in./ in./°F
10. Coefficient of Friction	IITRI	<b>Static Kinetic</b> Natural Cleft: <b>Dry</b> 0.73 0.69 <b>Wet</b> 0.73 0.69 Sand Rubbed: <b>Dry</b> 0.78 0.74 <b>Wet</b> 0.80 0.74
11. Abrasive Resistance	ASTM C241	13.2 H <sub>a</sub> 5-6 mon's
12. Fire Resistance	IITRI	1800°F bloat non-combustible
13. Acid Resistance	ASTM C217	0.0018 in.
14. Weather Resistance (Atmospheric Durability)	IITRI ASTM C215	29% modulus loss -10% strength loss
15. Durability (Wet-Dry Cycling)	RP 477	0.004% weight loss -10% strength loss
16. Life Expectancy	observation of existing structures	no visible deterioration or fading apparent