



InstaTurf® ShearForce10™ Hybrid Turf Instant Armor Mat
Product Specification

The hybrid turf instant armoring permanent erosion control mat shall provide the immediate finished look of natural grass along with the high flow erosion protection of large rock riprap, while establishing permanently reinforced vegetative cover. The mat shall consist of a UV stabilized, monolithic polyethylene simulated turf structure with approximate 7/16 inch by 5/8 inch rectangular apertures, reinforced with a lightweight polypropylene grid heat bonded to its base, and backed with an engineered lightweight polyester geotextile. The geotextile must be dense enough to retain fine soil particles and seed, yet open enough to allow seedling emergence. The mat shall have an unvegetated permissible shear stress rating, as determined by ASTM D6460 large-scale channel testing, of 10 lbs/sf or greater for immediate as well as long-term erosion protection against high shear stress water flow. The hybrid turf instant armoring mat shall have the following characteristics and dimensions, and meet or exceed the minimum physical and performance properties as specified below.

Color: Grass green

Roll Sizes: 3ft x 45ft – 135 sf, 6ft x 45ft - 270 sf

Roll Weights: Approx. 46 lbs/95 lbs

InstaTurf ShearForce10 Index and Performance Properties				
Index Properties	Test Method	Units	Values	
Mass Per Unit Area	ASTM D6475-06	lbs/sy	3.05	
Tensile Strength	ASTM D6818	MD (lbs/ft)	468	
		XD (lbs/ft)	313	
Elongation	ASTM D6818	MD (%)	22.8	
		XD (%)	22.5	
Thickness	ASTM D6525	In	1.07	
Ground Cover	ASTM D6567	%	89.4	
UV Stability	ASTM D4355	% Tensile Retention @ 1,000 hrs	93.5	
Performance Properties & Typical Design Values				
Manning's n Roughness Coefficient	ASTM D6460	<.5 ft flow depth	0.04	
		.5 - 1.0 ft flow depth	0.03	
		>1.0 ft flow depth	0.025	
Channel Permissible Shear Stress	ASTM D6460	Unvegetated (lbs/sf) - Cohesive Soils	12	
	<i>Recommended</i>	Unvegetated (lbs/sf) - Non-cohesive Soils	10	
	ASTM D7207	AASHTO-NTPEP Bench Scale Shear (lbs/sf) (Extrapolated)	13	
Channel Permissible Velocity	ASTM D6460	Unvegetated (ft/sec) - Cohesive Soils	25	
	<i>Recommended</i>	Unvegetated (ft/sec) - Non-cohesive Soils	20	
Slope Protection	ASTM D7101	AASHTO-NTPEP Bench Scale Slope Protection % Control of Soil Loss	99.1%	
		Corresponding C-Factor	0.009	

InstaTurf® ShearForce™ products are manufactured by GrassWorx LLC, 2381 Centerline Industrial Drive, St Louis, MO 63146. Insta-Turf.com