



InstaTurf® Soft Armor products

Immediately effective, lower cost alternatives to rock riprap and other hard armor systems for permanent erosion protection.

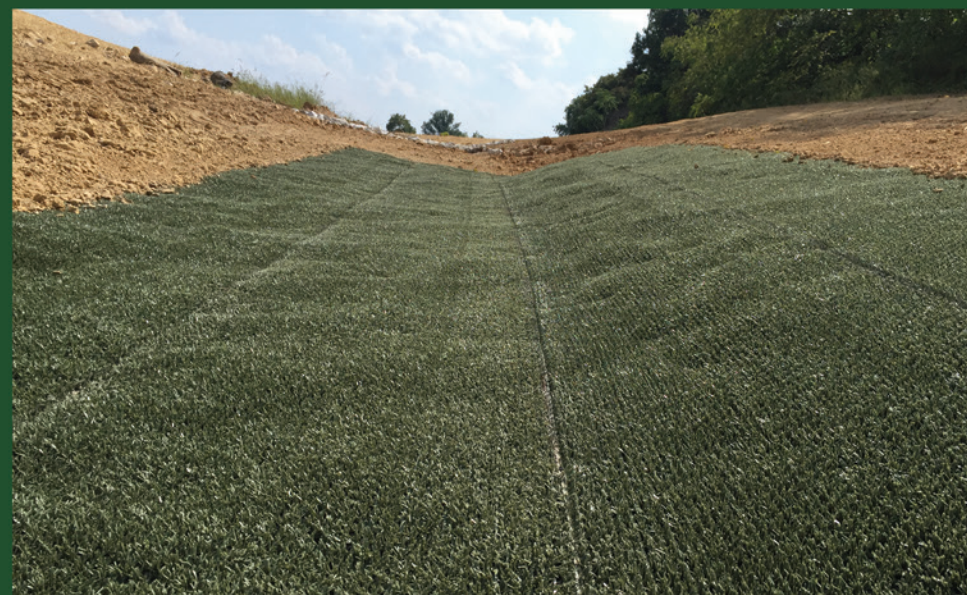


www.insta-turf.com



You no longer need to wait for vegetation in order to attain maximum high-performance erosion protection.

Unlike conventional Turf Reinforcement Mats (TRMs) that offer limited erosion resistance before vegetation establishment, InstaTurf ShearForce Instant Armoring products immediately form a virtually non-erodible boundary layer on the soil surface, even under high water flow conditions, while facilitating the establishment of permanently reinforced, natural vegetation.



Unvegetated InstaTurf on Day One



Fully vegetated InstaTurf vs Rock Riprap in Channel



Fully vegetated InstaTurf

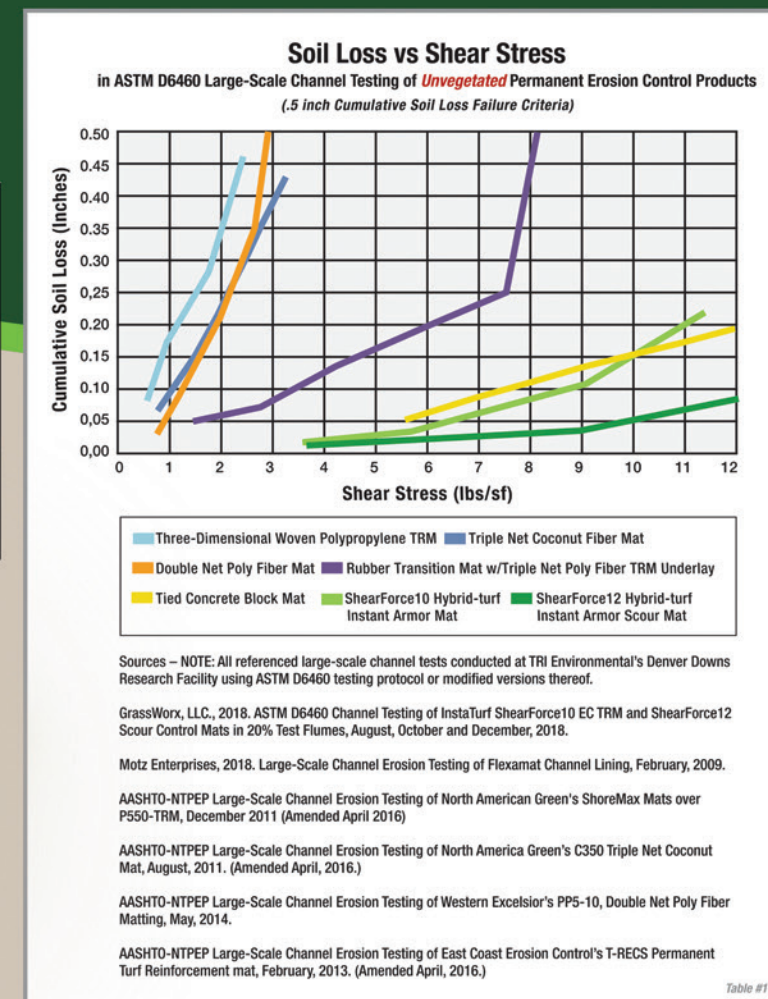
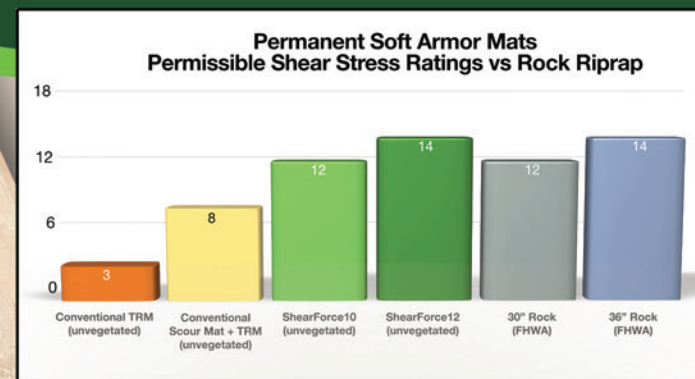
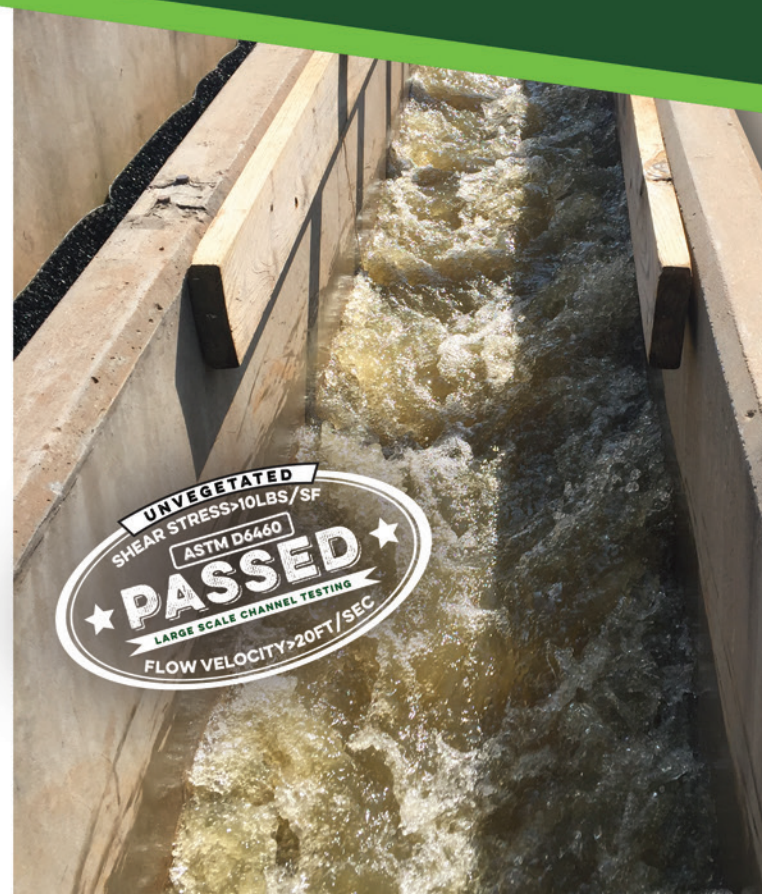
Bring it on.

Patent Pending InstaTurf® ShearForce™10 and ShearForce™12 Hybrid-turf Instant Armoring Products reduce risk by virtually eliminating erosion under very high-flow conditions from the very first day of installation.

No more worries if that hundred year storm event occurs soon after product installation...your project will be protected! Also, from day one, our products offer the added feature of appearing like real grass.

Proven in ASTM D6460 Large Scale Channel Testing without vegetation to exceed the permissible shear stress of large diameter rock! InstaTurf products are ideal for high flow channels, culvert outfalls, spillways downchutes, shorelines, and other critical areas where vegetation is slow to establish.

For more information and to see a video of the extreme testing process as well as real-world case studies, please visit our web site at www.Insta-Turf.com



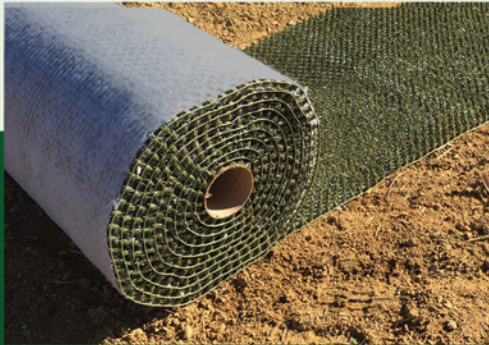
Get a quote:

Contact Tim Lancaster 812-483-1532, tim.lancaster@grassworxllc.com or go to www.insta-turf.com to find your local InstaTurf distributor

SHEARFORCE™ 10

FEATURES AND BENEFITS

- Reinforced turf performance from day one, effective erosion protection at shear stress > 10 lbs/sf
- Immediate erosion control equivalent to large rock riprap and other hard armor, at less than ½ the cost
- Aesthetically pleasing, green grassed-in finished look
- Environmentally friendly
- Highly UV stable and weather resistant
- ShearForce10 is available in convenient 3 ft x 45 ft, 48 lb and 6 ft x 45 ft, 96 lb rolls for easy installation
- Simple installation, just lay it and anchor it over seeded area
- Easy maintenance with standard mowing equipment



SHEARFORCE™ 12

FEATURES AND BENEFITS

- Maximum scour protection performance from day one, effective at shear stress > 12 lbs/sf
- All-in-one scour transition mat, no additional underlay required
- Cost-effective scour control alternative to large rock riprap and other hard armor systems
- Aesthetically pleasing, green grassed-in finished look
- Environmentally friendly
- Highly UV stable and weather resistant
- ShearForce12 comes in easy-to-handle 3 ft x 4 ft panels that weigh 30 lbs
- Simple installation, just lay it and anchor it over seeded area
- Easy maintenance with standard mowing equipment



InstaTurf™ Recommended Design Values		Channels/Outfalls/Spillways/Streambanks*				Slopes	Shorelines	
		Manning's n	Design Shear Stress		Design Velocity		Max Gradient (h:v)	Max Wave Height
			Cohesive Soils	Non-Cohesive Soils	Cohesive Soils	Non-Cohesive Soils		
ShearForce10™ Hybrid-turf Instant Armor Mat	<i>Unvegetated</i>	.025 – .040	12 lbs/sf	10 lbs/sf	25 ft/sec	20 ft/sec	>1:1	<=1.0 ft
	<i>Vegetated</i>	.025 – .4	16 lbs/sf	14 lbs/sf	30 ft/sec	25 ft/sec	>1:1	<=1.5 ft
ShearForce12™ Hybrid-turf Instant Armor Scour Mat	<i>Unvegetated</i>	.025 – .040	14 lbs/sf	12 lbs/sf	30 ft/sec	25 ft/sec	>1:1	<=1.5 ft
	<i>Vegetated</i>	.025 – .4	18 lbs/sf	16 lbs/sf	30 ft/sec	25 ft/sec	>1:1	<=2.0 ft

* Design values are derived from ASTM D6460 large-scale channel testing on loam soils under 4 consecutive 30 min flow events in 20% gradient test flumes. A safety factor (SF) of 1.25 - 2.0 may be applied in channel lining designs to account for longer flow durations, more erodible soils, and varying side-slope gradients.

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