

# ExcelDrain™

## Prefabricated Drainage Systems for Athletic Fields



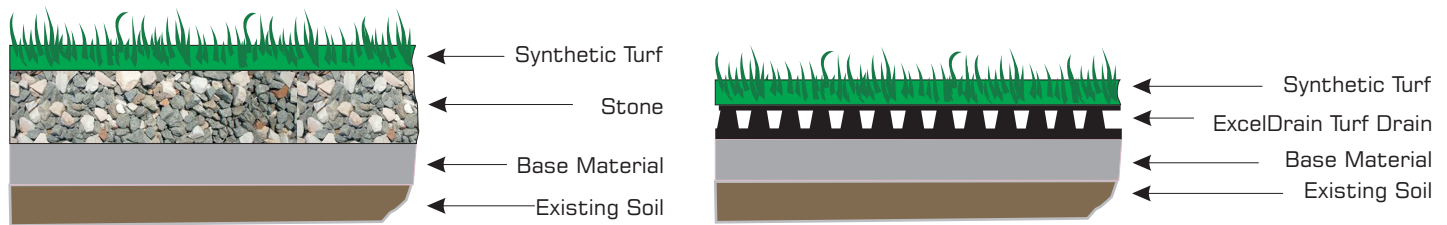
**FOOTBALL FIELDS ♦ SOCCER FIELDS ♦ BASEBALL FIELDS  
GOLF COURSES ♦ PLAYGROUNDS**

# EXCELDRAIN PREFABRICATED TURF DRAIN

With the newest technologies being introduced in the sports industry from breathable fabrics to long range golf balls, it wasn't long before athletic fields would see a facelift. Traditionally, sports fields were made from natural grass, but today they can also be created with synthetic turfs. Unfortunately, in the early developments of synthetic turfs, problems were evident including hard playing surfaces resulting in injuries to athletes. Along with these unforgiving fields also came major water runoff issues due to lack of sufficient drainage. Over the years new synthetic turfs have been developed to mimic natural grass yet drainage problems continued to be an issue. American Wick Drain has been a leader in prefabricated drainage systems for many years and has developed a full coverage drainage system that provide exceptional drainage on high-performance artificial turfs.

## ExcelDrain Turf Drain versus Stone

When synthetic turfs are used, drainage is a very important aspect of the entire system. To help drain the turf, traditionally stone was used to provide an adequate drainage layer. Unfortunately, to get adequate drainage, 4 to 6 inches of stone had to be incorporated into the design. To do this, extra excavation and grading were required resulting in higher costs. In addition, the stone provided a rough base for the synthetic turf that was difficult to grade and would intrude into the turf over time.



The ExcelDrain Turf Drain has three distinct advantages over stone in synthetic turf applications:

1. **Superior flow** - ExcelDrain Turf Drain's half inch design can collect and transport 16 gallons per minute per foot of width which is superior to 4 inches of stone which can only handle 3-5 gallons of water per minute per foot of width. This also provides a superior rainfall evacuation rate which reduces the wait time before using the field after a rain event.
2. **Enhanced G-Max Performance** - ExcelDrain Turf Drain provides a high compressive strength structure that allows the water to flow under the turf yet it enhances the G-Max performance without changing the ball action or causing injury to the players during play
3. **Easy to install** - ExcelDrain Turf Drain comes in rolls of 4 foot widths and up to 120 foot long for easy handling and installation.

# INSTALLING EXCELDRAIN TURF DRAIN



During a synthetic turf installation, a field starts with the rough soil graded to a specified slope. Next, approximately 4 inches of base material (based on the turf design) is laid. ExcelDrain Turf Drain is then laid over the base material. Finally, the field is completed with the synthetic turf.

Project Shown: West Monroe High School - Louisiana



Athletic Fields from Left to Right: Chapman University - California, Sweetwater Baseball Field - California, West Monroe High School - Louisiana, and Greenwich High School - Connecticut

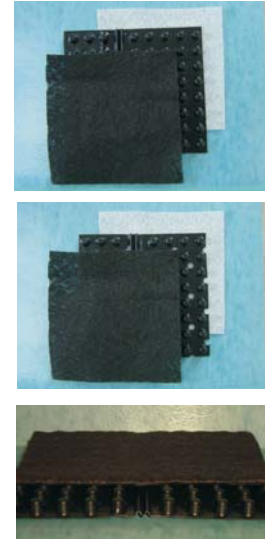


# EXCELDRAIN TURF DRAIN

**ExcelDrain 100** is a high compressive strength, moisture conducting, non-absorbent geocomposite drain made from recycled materials. ExcelDrain 100 is a three-part pre-fabricated system that consists of a formed polystyrene core covered on one side with a non-woven polypropylene filter fabric and on the other side with a cushioning fabric. The filter fabric allows water to pass freely into the core while restricting any movement of rubber or other particles that might clog the core. The cushioning fabric is for sound-dampening. The drain provides a high compressive strength structure that allows water to flow to designated exits.

**ExcelDrain 200** is also a three-part pre-fabricated system that consists of a formed polystyrene core perforated to allow water entry from both sides. ExcelDrain 200 is covered on both sides with a non-woven polypropylene filter fabric. The filter fabric allows water to pass freely into the core while restricting any movement of rubber or other particles that might clog the core. The core provides a high compressive strength structure that allows water to flow to designated exits. The use of ExcelDrain 200 greatly reduces risk factors associated with poor subsurface soils.

The use of either ExcelDrain 100 or ExcelDrain 200 greatly reduces risk factors associated with poor subsurface soils. The use of either in synthetic field turf applications will also provide an uninterrupted vertical-to-horizontal flow path for superior rainfall evacuation and enhanced G-max performance without changing the ball action or feel under-foot.



Typical properties	US	SI	Test method
<b>Filter Fabric properties</b>			
Material	Polypropylene	Polypropylene	
Grab tensile strength	110 lbs	485 N	ASTM D4632
Puncture strength	65 lbs	285 N	ASTM D3787
Trapezoidal tear	50 lbs	220 N	ASTM D4533
Mullen burst strength	215 psi	1430 kPa	ASTM D3786
Elongation	60%	60%	ASTM D4632
EOS (AOS)	70 sieve	212 micron	ASTM D4751
Permittivity	1.6 sec <sup>-1</sup>	1.6 sec <sup>-1</sup>	ASTM D4491
Permeability	0.01 ft/sec	0.3 cm/sec	ASTM D4491
Flow rate	150 gpm/ft <sup>2</sup>	6110 lpm/m <sup>2</sup>	ASTM D4491
<b>Core properties</b>			
Material	Polystyrene	Polystyrene	
Thickness	7/16 in	11 mm	
Compressive Strength	25,000 lbs/ft <sup>2</sup>	1016 kN/m <sup>2</sup>	ASTM D1621(Mod)
Flow capacity per unit width	16 gpm/ft	200 lpm/m	ASTM D4716
Expansion coefficient	4.42 x10 <sup>-5</sup> in/in per°C		
Evacuation capacity	3.87 in/hour	9.83 cm/hour	
All information, drawings and specifications are based on the latest product information available at the time of printing. Constant improvement and engineering progress make it necessary that we reserve the right to make changes without notice. All physical properties are typical values. Standard variations in mechanical properties of 10% and in hydraulic properties of 20% are normal.			
			Patent # 7,014,390

**Warranty** - American Wick Drain Corporation (AWD) warrants its products to be free from defects in materials and workmanship. AWD warrants that its products meet the physical specifications as documented in our published literature. AWD makes no other warranty, expressed or implied, including warranties of merchantability and fitness for a particular purpose. **Products must be installed based on AWD's guidelines and specific instructions.** AWD shall not be liable for any incidental or consequential damages or losses including the cost of installation, removal, repair or replacement of this product. The Buyer's remedies shall be limited exclusively to, at AWD's option, the repayment of the purchase price or resupply of the product manufactured by AWD in a quantity equal to that of the nonconforming product. AWD distributor, agents, salespersons, or other independent representative have no authority to waive or alter the limitation of liability and remedies.

**For more information contact:**  
**American Wick Drain 800-242-WICK**  
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