

Defender is a shock absorbing underlayment for synthetic turf fields. It is installed directly under the turf carpet. Defender is supplied in rolls so it can be installed quickly and easily providing that the following installation instructions are followed.

## PREPARATION

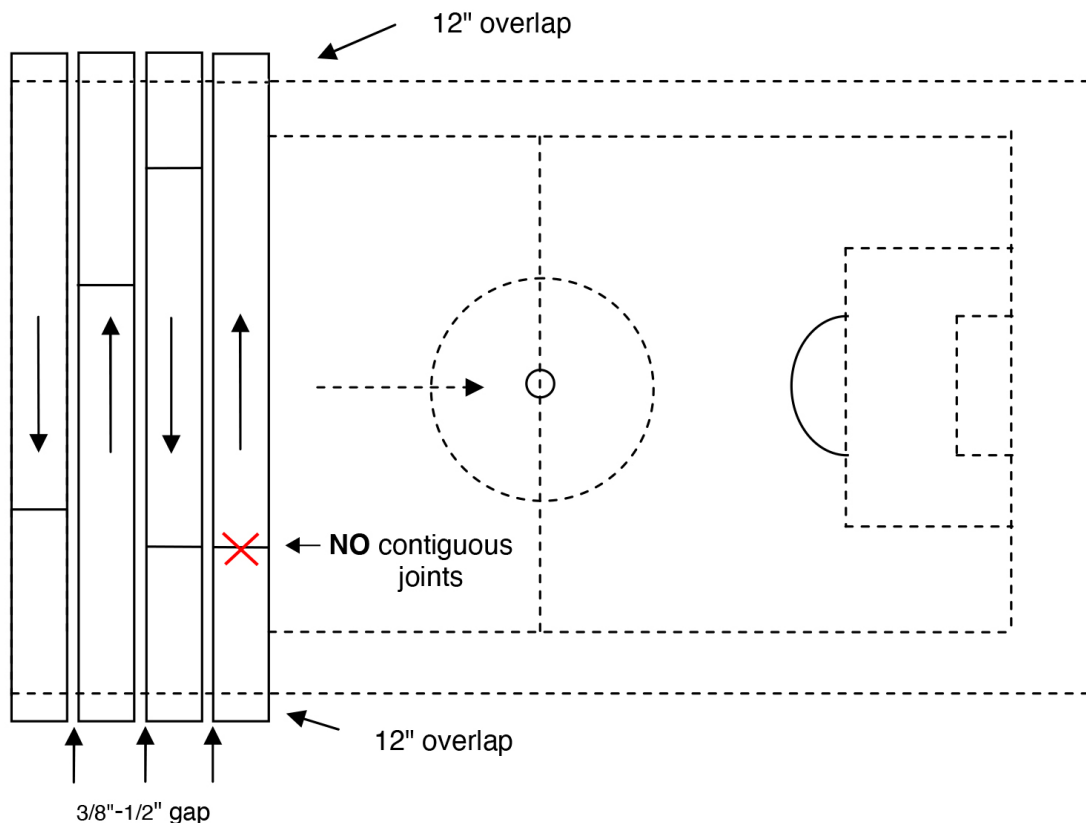
The sub base should be graded per the plans and specifications. A smooth and evenly graded surface is essential for the proper performance of any pad and turf surface as imperfections may broadcast through the layers. Defender can be installed under all weather conditions due to its minimal thermal expansion properties. The pad will not noticeably shift or elongate through temperature swings. Thus, there is no pressing need to immediately cover the pad with turf as a preventive measure. However, it is recommended the installation take place at temperatures above 40°F.

If the Defender I4C is being used to facilitate vertical to horizontal drainage, it is advisable to first install a geotextile on the sub grade. A permeable textile will keep the channels from becoming silted while still allowing vertical drainage. An impervious textile will seal the field and direct all drainage through the Defender I4C drainage channels to the edge of the field.

## UNLOADING & HANDLING

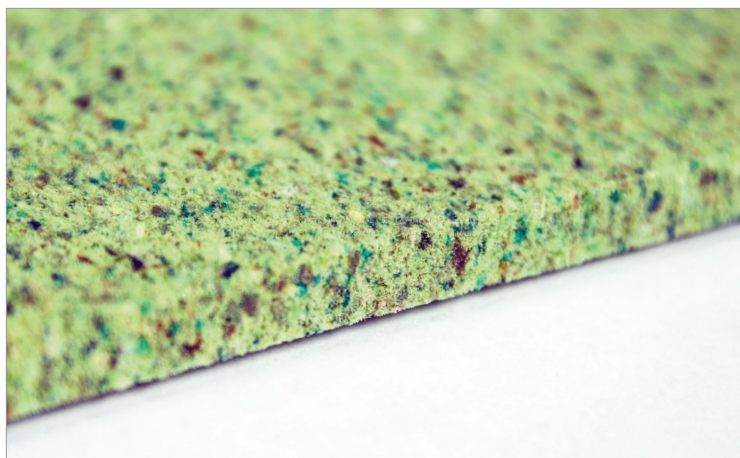
Defender shock pad is very resilient and quite durable. Nevertheless, abuse of the rolls during unloading and placement must be avoided. If delivery is made by enclosed van trailer, the rolls can be dropped off of the back of the truck and then delivered to a storage area with a piece of construction equipment that is equipped with a carpet pole. If they arrive on a flatbed, then the rolls can be lifted directly off of the trailer with the above-mentioned equipment.

## INSTALLATION



Install the rolls in the transverse direction (across the width) of the field. If installing the Defender.14C, make sure the product is unrolled onto the field with the drainage channels facing downward. Position the first roll and unwind it across the width of the field, allowing a one foot overlap on each side of the field. Install the second roll alongside the first one allowing a  $\frac{3}{8}$ - $\frac{1}{2}$ " gap in between the two rolls. The gap helps avoid overlapping of panels due to any movement created during the installation of the synthetic turf. Avoid contiguous butt joints in adjacent rows. This is easily done by using the balance of a roll just installed to begin the next row going in the opposite direction. Repeat this process until all rolls are in place.

With the Defender.12 the use of jointing tape is not necessary as long as the gap is taken into account. For the Defender.14C a jointing tape is recommended only at the butt joints to maintain the alignment of the drainage channels. Repositioning of the roll can be easily done during or after unrolling. Cut off the overlaps just before the artificial turf infill is installed.



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