

Installation Guideline

Under Ballast Mats in Curved Sections

1. General Description

This Installation Guideline is an amendment to the "Guideline for the Installation of Under Ballast Mats, including Storage" (to be retrieved from the Getzner website).

All points of the main document are also valid here unless described differently in this document.

In order to achieve the best efficiency of the Under Ballast Mats (UBM), they must be laid as closely as possible to the curve contour during installation. As each mat is usually cut rectangularly, the following method is helpful to enable an efficient installation.

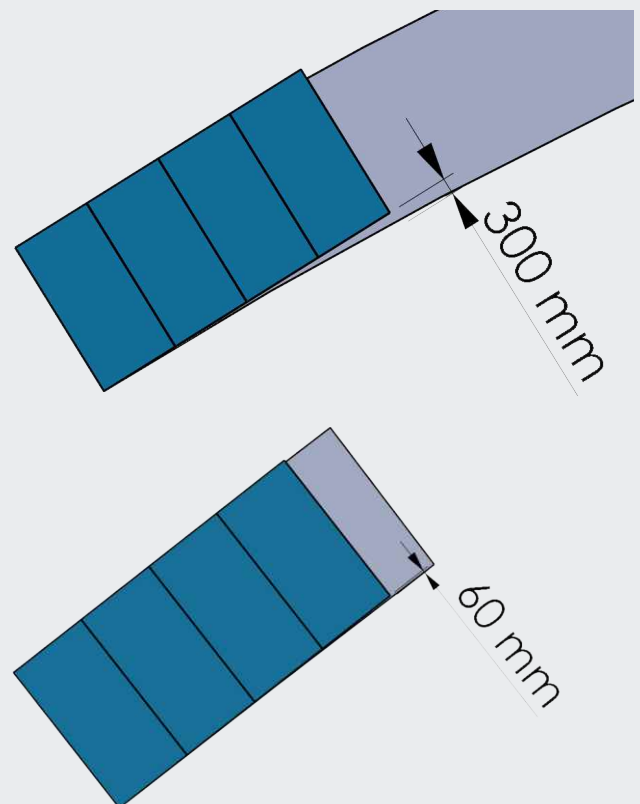


2. Installation

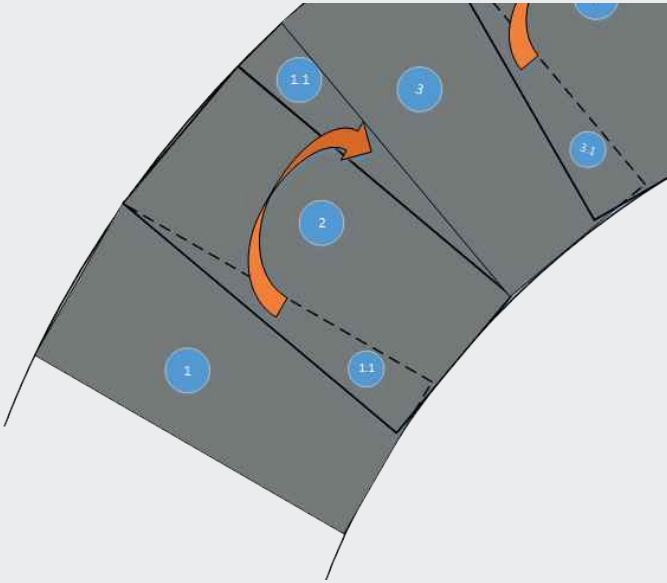
For a better understanding of the installation of UBM in curves, the illustrations show the differences in the curve radius resulting in a smaller or bigger deviation from a straight line track.

The upper illustration shows a to-scale drawing of a 100 m curve and the difference in curvature. In both drawings, four UBM (3 m x 1.5 m) were positioned in a linear way (without adjusting to the curve). The curvature in the 100m curve is five times stronger than in the wide 500 m curve shown in the lower picture.

For this reason, the mats have to be laid in a way that follows the curvature of the track. This is described in the following steps in this document.



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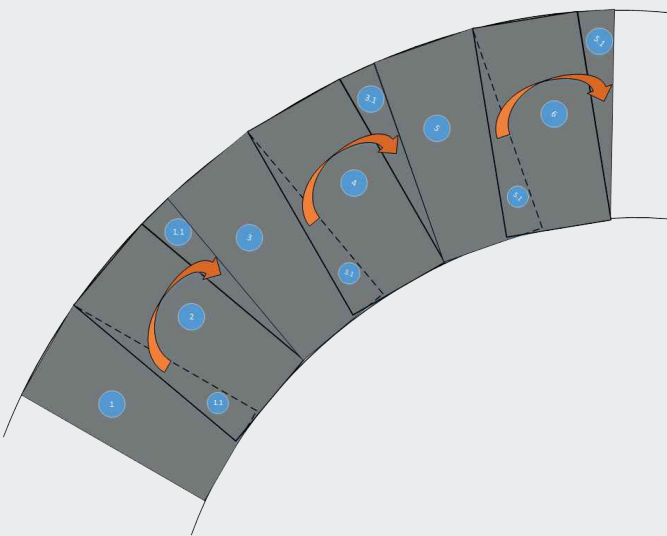
2.1 Installation of USM

In order to lay and fit the mats the first step is to overlay two mats (#1 and #2) towards the direction of the curve so that they are touching at the outside top corner.

In the second step, the overlap of mat #1 is cut off using the edge of mat #2 as guidance. The cut wedge-shaped piece (#1.1) has to be pulled out from underneath, is rotated 180° and positioned after mat #2 and used to direct the third piece (#3) of mat towards the curve radius.

Depending on the radius further cutting of the next wedge is necessary either right after it or only after another few pieces of mat.

The narrower the curve, the more cutting is necessary. Gaps between the mats that could be penetrated by stones must be avoided. It is therefore extremely important to cover the mat joints with the fleece strips provided by Getzner. The fleece strips can be glued or welded with the Getzner Weld-Jet device. The appropriate method depends on the general conditions at construction site.



2.2 Alignment of UBM

This illustration shows a typical series of mat fittings in a narrow curve.

As mentioned in the description above this series can vary depending on the curve radius.

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2.3 Final result

If all of the above mentioned steps are followed, the final result should look like these two illustrations.



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3. Recycling

Unused UBM or pieces thereof can be recycled in standard plastics waste containers.

At the end of the lifetime of the superstructure the UBM can be mechanically removed from the substructure and thermally recycled. All our materials are non-hazardous to the environment.

4. Disclaimer

This guideline only serves to support the customer or his authorised specialist in the installation of Getzner UBM. Getzner Werkstoffe draws the attention to known design errors and problems. This guideline was compiled with the utmost care based on Getzner's current knowledge.

Getzner Werkstoffe assumes no warranty or liability for the accuracy, completeness, topicality or quality of this guideline. The customer is not entitled to any claims whatsoever arising from the use of this guideline. In particular, Getzner Werkstoffe is not responsible for the proper installation of Getzner UBM and the resulting negative effects on the condition / quality of Getzner UBM or its performance. This guideline is merely intended as a strict recommendation and it is recommended that the installation is carried out by a specialist.

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