

Workflow

# ALLPLAN Add-On for the TRM Piling Systems

**Fast. Simple. Safe.**  
[www.trm.at](http://www.trm.at)

## Manufacturer

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## Developed by

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# Workflow:

## ALLPLAN Add-On for the TRM Piling Systems

### Introduction

With the TRM Piling System add-on for ALLPLAN, you can easily create and analyse your pile foundations in 3D.

This gives you a whole range of intelligent objects that you can place in your model and then analyse. You can easily change the built-in parts based on the individual parameters and select your specific type. You can then use the list generated from this to order the products.

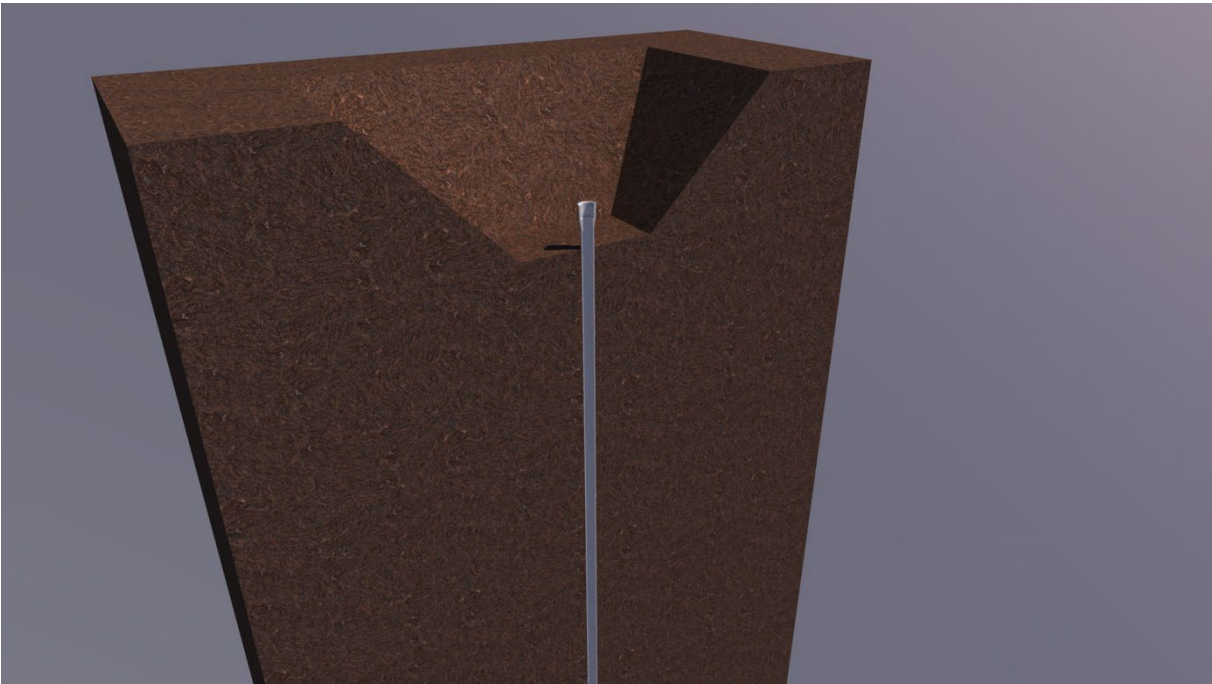
The following parameters can be set and changed for the pile:

- Number
- Name (e.g. "Pile type 1")
- Angle (Inclined piles)
- Offset
- Concrete grade grouting
- Pile pipe diameter (98 mm, 118 mm or 170 mm)
- Type (wall thickness)
- Length
- Grouting (Compression pile without or with shaft-grouting)
- Connection reinforcement (tension pile and alternating load pile)
- Pile shoe and load transfer plate from the TRM Pile driving accessories

Order lists can be generated afterwards.

# Content

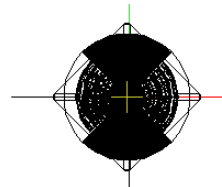
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# Input

## Placing a pipe

To place a pipe, simply move it with your mouse to the desired position in the viewport. The post will be displayed at the crosshairs and can be placed, with the current settings, by clicking the mouse button. Additionally, you can set the angle of the post along the Z-axis in the input bar.



## Placing multiple piles

You can place as many piles as you like. To end the input, use either the "Escape" key or click the "Close" button in the input palette.



## Editing a placed pile

To edit a post that has already been placed, simply double-click on it to edit it again.

# TRM ductile iron piling systems

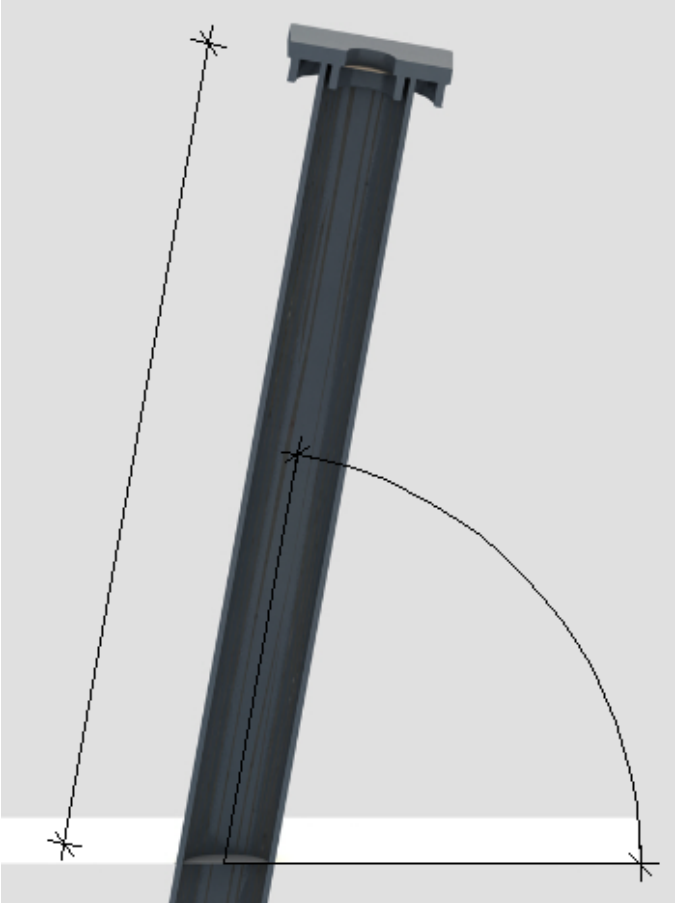
## General

In this section, you can edit the general data of the pile.

- **Number:** Determine the number of the pile. This number is assigned as an attribute to the pile and automatically incremented after a post is placed.
- **Name:** Assign a name to the pile (e.g., "Pile Type 1"). This information is assigned as an attribute to the pile.
- **Angle:** Here you can set the angle along the X-axis of the pile. This allows for the creation of slanted piles.
- **Offset:** Define the distance from the placement point of the post.
- **Concrete grade grouting:** Specify the concrete grade for the grouting.

▼ **General**

Number	<input type="text" value="1"/>
Name	<input type="text"/>
Angle	<input type="text" value="0.0000"/>
Offset	<input type="text" value="0.0000"/>
Concrete grade grouting	<input type="text" value="C20/25"/>



## Pile

In this section, you provide details about the pile, which can also influence other input fields in the palette.

- **Pile pipe diameter:** Determine the diameter of the pile pipe in millimetres. You can choose between the options 98 mm, 118 mm, and 170 mm.
- **Type:** Depending on the selected pile pipe diameter, you can choose the corresponding pile type here. The pile types are specified with diameter and wall thickness.
- **Length:** Define the length of the pile.
- **Grouting:** Choose whether it is a compression pile with or without shaft-grouting.

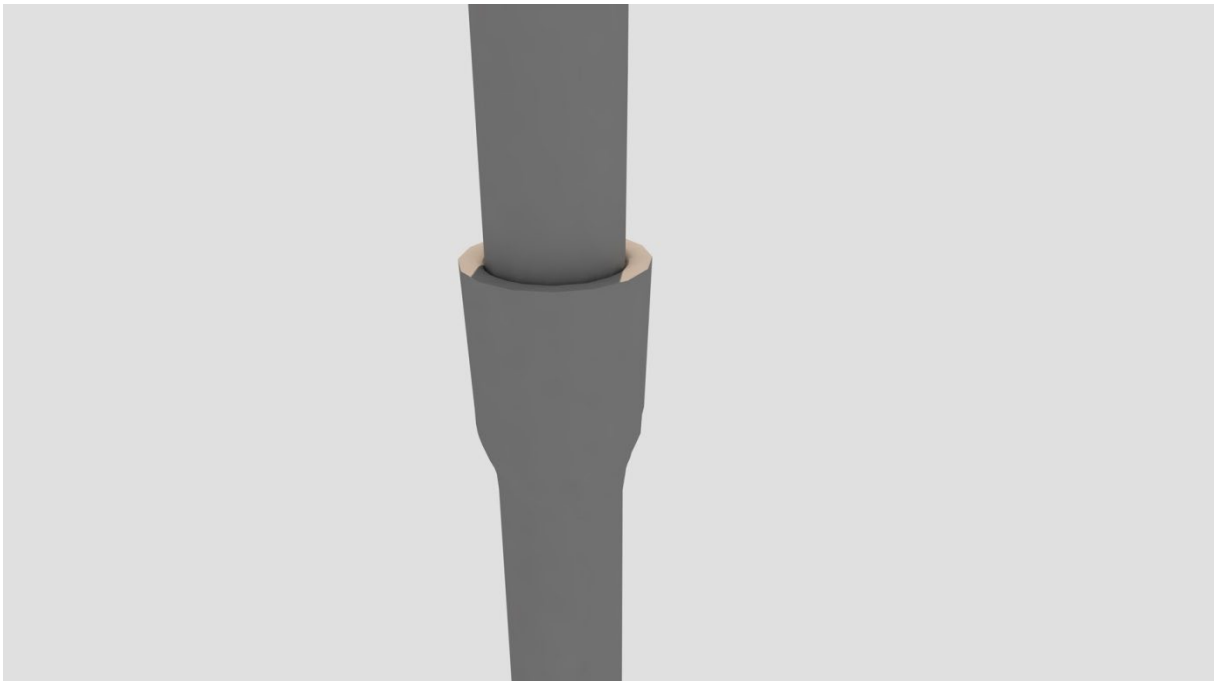
▼ Pile

Pile pipe diameter

Type

Length

Grouting  Non-grouted end-bearing piles  
 Grouted piles



Picture 1: "Plug&Drive<sup>®</sup>" friction-locking plug-in sockets

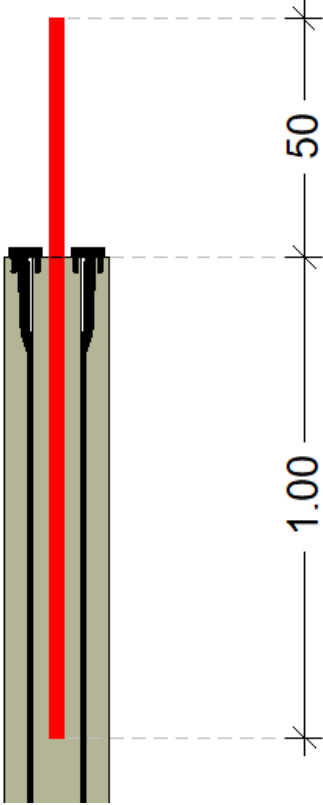
# Connection reinforcement

In this section, you can generate optional connection reinforcement.

- **Create:** Check this box to specify whether the connection reinforcement should be generated or not.
- **Diameter:** Determine the diameter of the connection reinforcement.
- **Top edge:** Define the height of the top edge of the connection reinforcement. The input is local to the placement point of the pile.
- **Bottom edge:** Define the height of the bottom edge of the connection reinforcement. The input is local to the placement point of the pile.
- **Material grade:** Enter the material grade of the connection reinforcement here as text.

▼ **Connection reinforcement**

Create	<input checked="" type="checkbox"/>
Diameter	<input type="text" value="0.0300"/>
Top edge	<input type="text" value="0.5000"/>
Bottom edge	<input type="text" value="-2.0000"/>
Material grade	<input type="text"/>





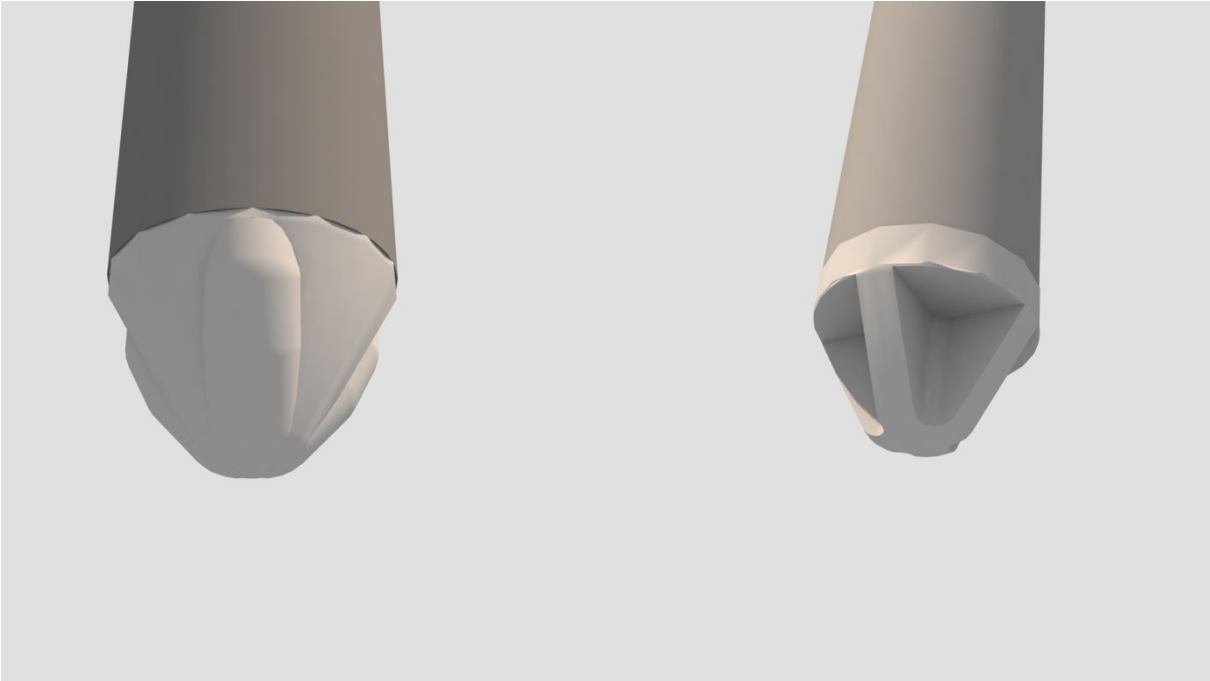
# Pile shoe

In this section, you can provide details about the pile shoe.

- **Pile shoe:** Use this checkbox to specify whether a pile shoe should be generated or not. This input is enabled by default but can be disabled if needed. In the dropdown list, you can select the desired pile shoe. Only pile shoes that are permissible for the current system (pile pipe diameter and grouting) are listed.

▼ **Pile shoe**

Pile shoe  DN 150 - TRM 98 pile shoe, grc ▼



Picture 2: TRM pile shoe conical grouted and non-grouted

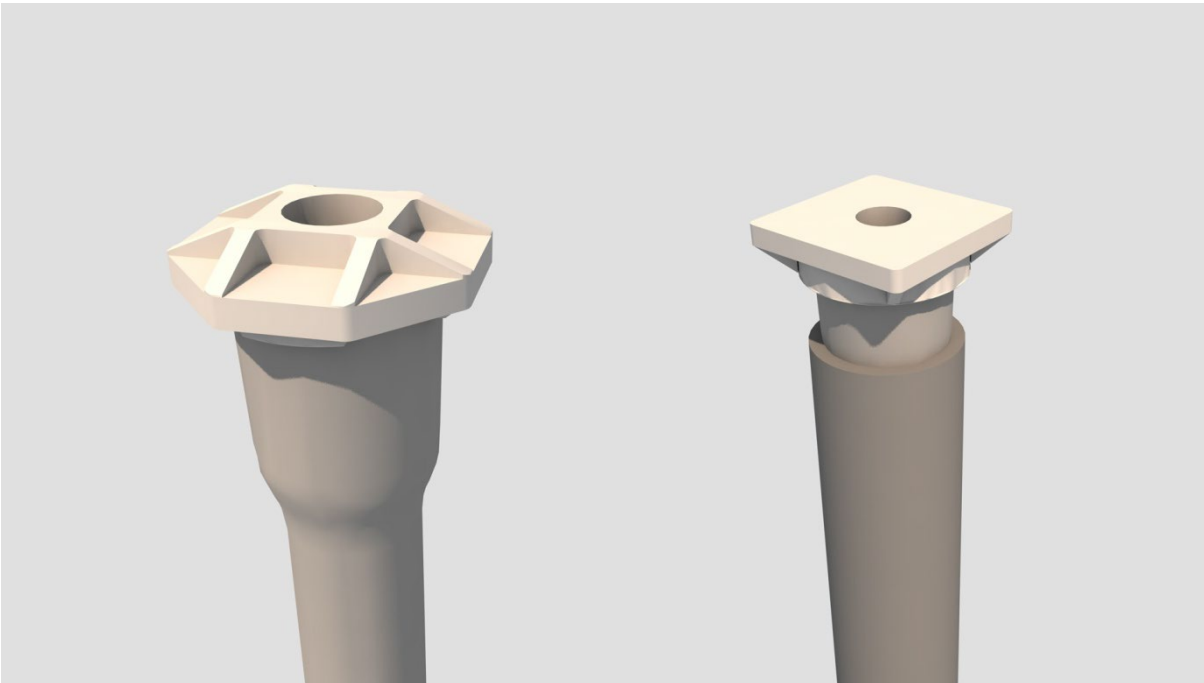
# Load transfer plate

In this section, you can provide details about the pile head.

- **Load transfer plate:** Use this checkbox to specify whether a pile head should be generated or not. This input is enabled by default but can be disabled if needed. In the dropdown list, you can select the desired pile head. Only pile heads that are permissible for the current system (pile pipe diameter and grouting) are listed.

▼ **Pile head**

Pile head  TRM 98 pile head plate, 170 x 1 ▼



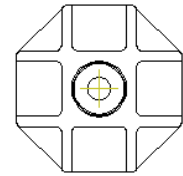
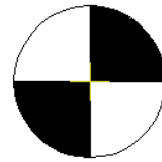
Picutre 3: TRM load transfer plate Octagon und classic

# Representation

## Ground view

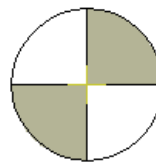
In this section, you can determine the representation of the pile in the ground view.

- **Representation:** Choose between a simplified and a detailed representation. In the simplified representation, a simple symbol is generated in the ground view.




- **Fill:** This input is only relevant if you have chosen a simplified floor plan representation. Here you can determine the color of the filling.

Darstellung vereinfacht  
Füllfläche 146



- **Pen:** Determine the pen used for the ground view representation. This input is only relevant when a simplified ground view representation has been selected. In a detailed ground view representation, the format properties of the respective elements are taken from the 3D model.
- **Stroke:** Determine the stroke used for the ground view representation. This input is only relevant when a simplified ground view representation has been selected. In a detailed ground view representation, the format properties of the respective elements are taken from the 3D model.
- **Color:** Determine the color used for the ground view representation. This input is only relevant when a simplified ground view representation has been selected. In a detailed ground view representation, the format properties of the respective elements are taken from the 3D model.
- **Layer:** Determine the Layer used for the ground view representation. This input is only relevant when a simplified ground view representation has been selected. In a detailed ground view representation, the format properties of the respective elements are taken from the 3D model.

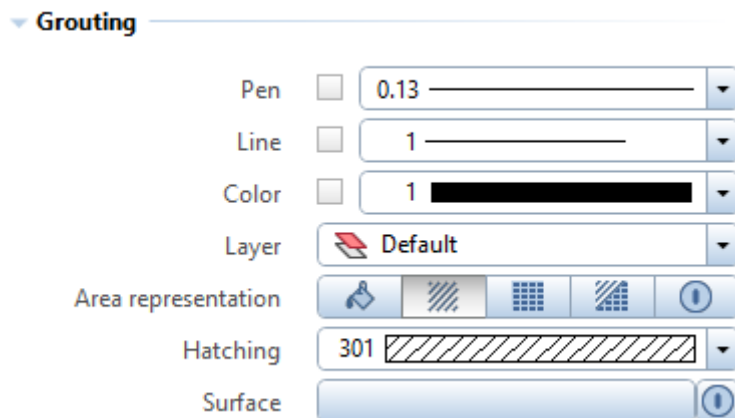
### Ground view

Representation simplified  
Fill 1  
Pen  0.13  
Line  1  
Color  1  
Layer  Default

## Remaining Elements

With the remaining sections on this page, you can edit the representation of each respective element. For example, in the "Pile" section, you can edit the representation of the pile.

- **Pen:** Determine the pen here. If the checkbox is enabled, the pen of the selected layer will be used.
- **Stroke:** Determine the stroke here. If the checkbox is enabled, the stroke of the selected layer will be used.
- **Color:** Determine the color here. If the checkbox is enabled, the color of the selected layer will be used.
- **Layer:** Determine the layer here.
- **Area representation:** Here you can specify how the areas of the respective element should be represented in sections. The options available are (from left to right): Fill, Hatching, Pattern, Style Area, and Disabled.
- **Fill/Hatching/Pattern/Style area:** Determine the desired representation here. The selection depends on the chosen area representation.
- **Surface:** Here you can assign a surface to the 3D elements to create realistic visualizations.



# Analyses

All placed components are displayed in the order list with TRM\_article numbers and TRM\_weight. This makes it easy to create an order.

	A	B	C	D	E	F	G
1	TRM_Artikelnummer	TRM_Bezeichnung	Anzahl	TRM_Länge	TRM_Masse/m	TRM_Masse	
2	1404071080	TRM 98 - 6.0 mm	16	5	14.4		
3	140470490	TRM 118 - 7.5 mm	26	5	21		
4	1404070916	TRM 170 - 7.5 mm	17	5	33.8		
5	1404895530	TRM 98 Pfahlkopfplatte, 170 x 170 x 20 mm	16			5.3	
6	1404895509	TRM 118 Pfahlkopfplatte, 200 x 200 x 20 mm	26			7	
7	1404895537	TRM 170 Pfahlkopfplatte, Oktagon 275	17			13.4	
8	1404894262	DN 150 - TRM 98 Pfahlschuh, verpresst, konisch	16			2	
9	1404895542	TRM 118 Pfahlschuh, unverpresst, flach	26			3.6	
10	1404895519	DN 320 - TRM 170 Pfahlschuh, verpresst, konisch	17			14	
11							
12							
13							
14							