



# Structural Analysis & Design Software

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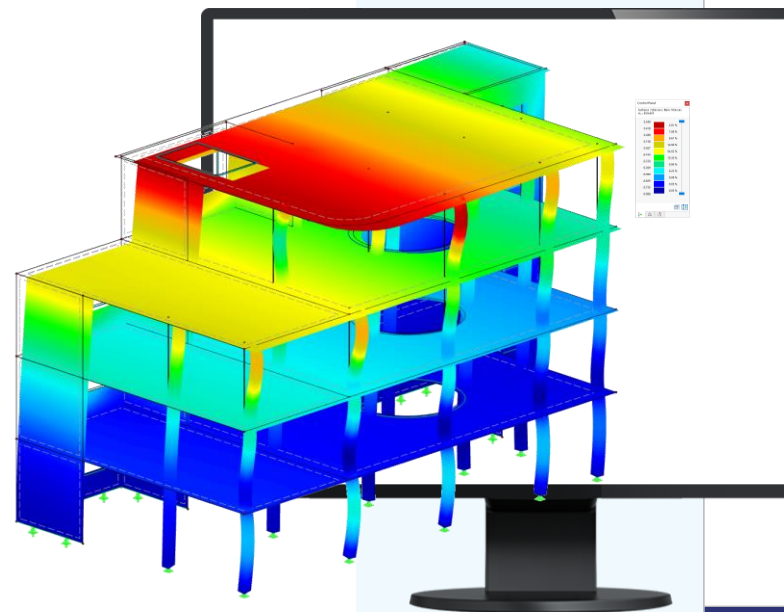
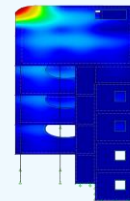
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Webinar

# Introduction to the New Pushover Analysis Add-On



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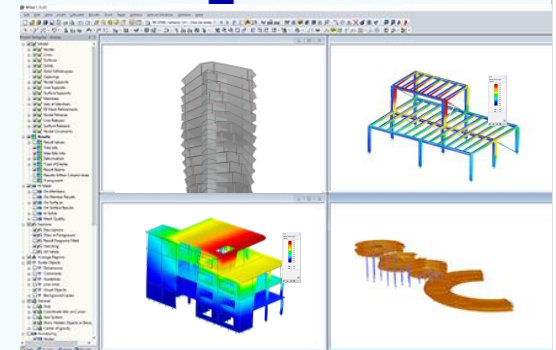
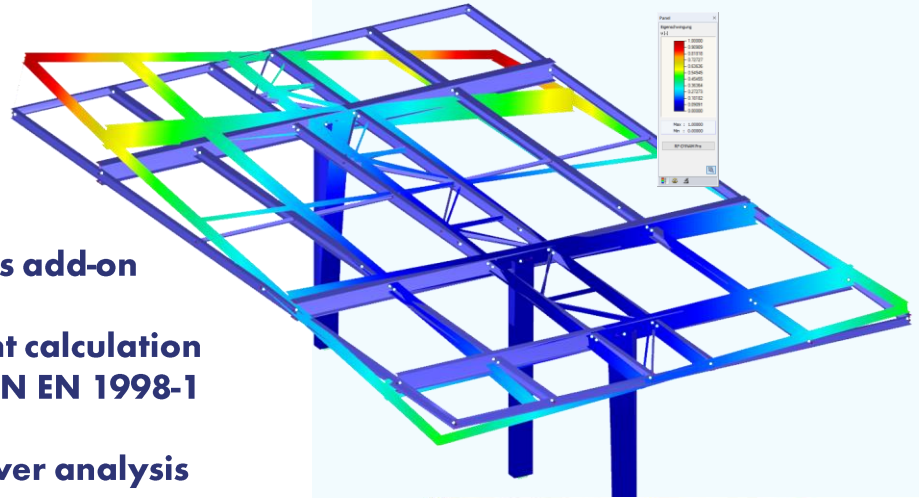


Ask questions



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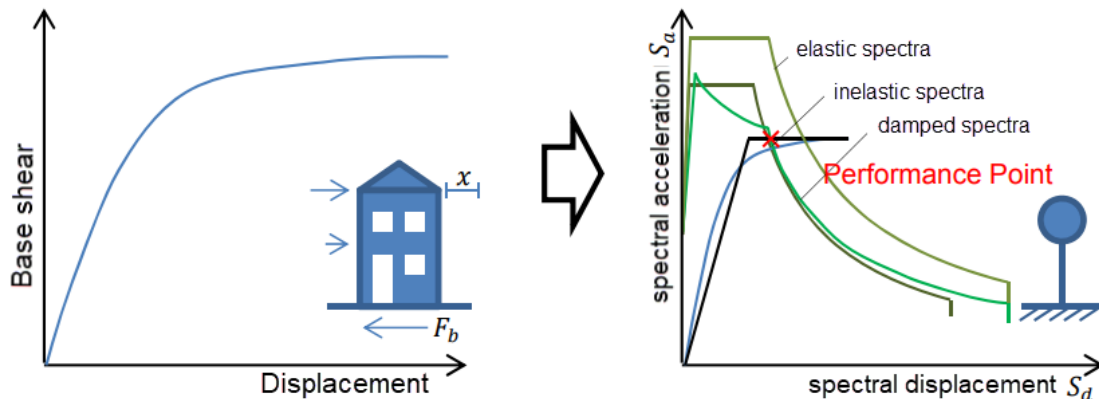
- 01 Introduction to Pushover Analysis add-on
- 02 Input of structure and subsequent calculation using N2 method according to DIN EN 1998-1
- 03 Evaluation of results from pushover analysis
- 04 Another pushover analysis example
- 05 Outlook for other calculation methods in Pushover Analysis add-on



# What is a Pushover Analysis?

The pushover graph represents the structure's ability to resist lateral loads, and therefore it is also called capacity curve.

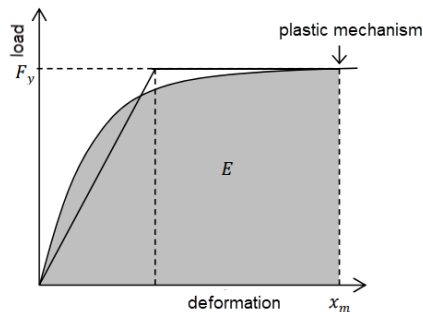
The purpose of the pushover analysis is to determine the maximum nonlinear reaction of the structure to seismic loads. The maximum is indicated by the largest displacement of the control node. Based on this value, the hinges' position and plastic limit state are then determined and the displacement for the story drift is analyzed.





# How to perform the analysis?

- Determination of elastic response spectrum
- Creation of dynamic system
- Identification of pushover curve
- Determination of pushover curve for equivalent single degree of freedom system (SDO)
- Determination of period for equivalent SDOF
- Determination of target displacement of equivalent SDOF
- Calculation of target displacement of original system
- Check of acceptance of target displacement
- Graphical check in Sa-Sd diagram



elastic region	inelastic region	
$T_1^* < T_C$	$T_1^* < T_C$	$T_1^* \geq T_C$
$x_t^* = x_{et}^*$	$x_t^* = \frac{x_{et}^*}{q_u} \cdot \left( 1 + (q_u - 1) \cdot \frac{T_C}{T_1^*} \right)$ $q_u = \frac{S_e(T_1^*) \cdot m_1^*}{F_y^*}$	$x_t^* = x_{et}^*$



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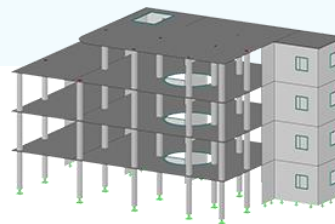
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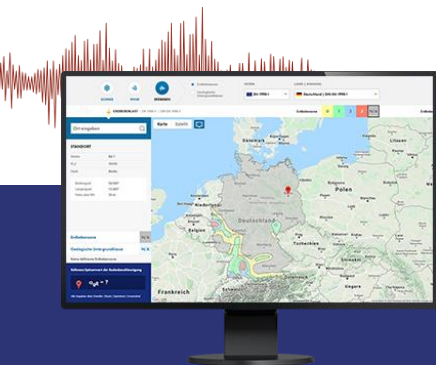


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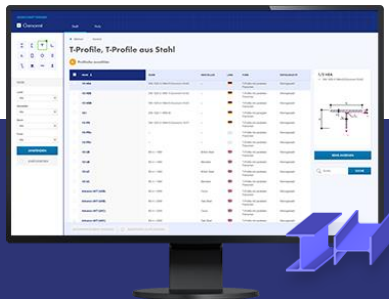
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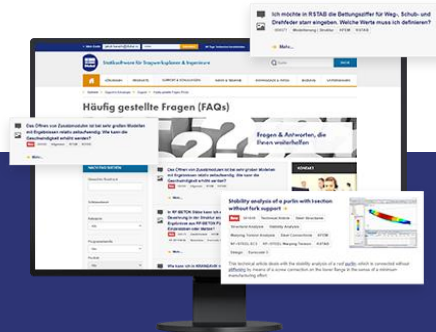
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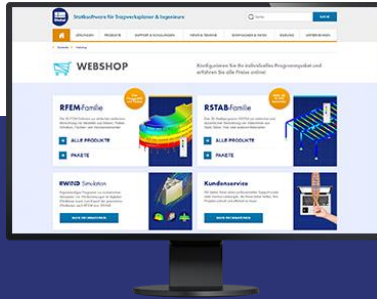
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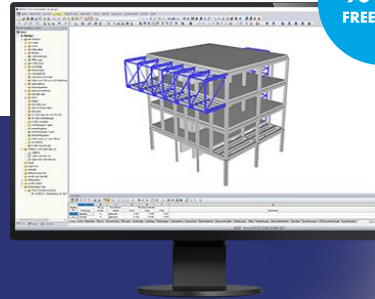
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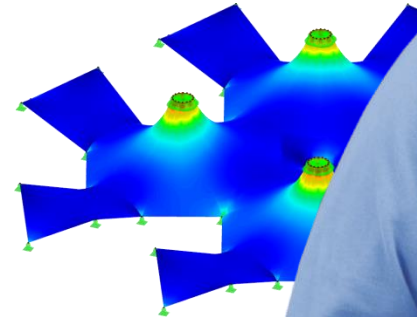
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