

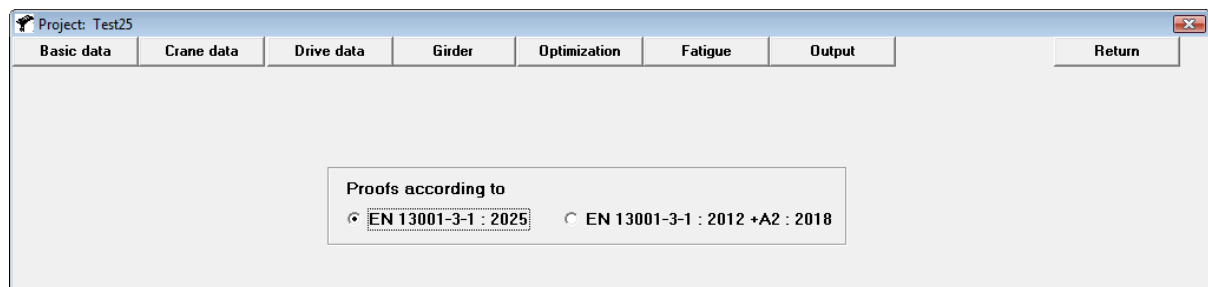
Differences between EN 13001-3-1:2025 and EN 13001-3-1:2018

The most significant differences concern the static proofs of fillet welds.

EN-Kran offers the possibility to choose between the application of the two editions:

Default setting:

- Restart of older projects starts with edition 2018
- Start of new projects begins with edition 2025
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Now the other edition can optionally be chosen. Further starts of the project begin with the last chosen edition.

Consequences of the edition EN 13001-3-1:2025

The Table 8 — Factors α_w for limit weld stresses and the requirement for A-dimensions of fillet welds $a \leq 0.7 \cdot t_{\min}$ are dropped, i.e. greater A-dimensions are allowed and the proof of static strength may be verified with these welds.

However, an additional value is necessary: f_{yw} the yield strength of the weld material (property of filler metal). Everywhere where EN-Kran expects input of A-dimensions the input of f_{yw} is necessary, too:

Example of input of welds of Box girders:

All lengths in [mm]		Weld material		f_y	235	[N/mm ²]
Fillet welds: A-dim.		Web-Upper fl.:	2	Web-Bottom fl.:	5.6	
Plate dimensions				<input type="checkbox"/> through-welded	<input checked="" type="checkbox"/> Double-fillet weld	

EN-Kran uses as default value 235 N/mm² (equivalent to the minimum values of plate material S235). You should change this value to the actual value of used weld material.

The previous weld stress σ_z is vectorially splitted into σ_{\perp} and τ_{\perp} . For the proof of static strength it must be shown (according to equation 28 if EN 13001-3-1:2025), together with τ_{\parallel} that

$$\sqrt{(\sigma_{\perp})^2 + 3 \cdot (\tau_{\perp}^2 + \tau_{\parallel}^2)} \leq f_{yw} / \gamma_m \quad \text{and} \quad \sigma_{\perp} \leq f_y / \gamma_m$$

Important:

- A-dimensions that were in compliance with the requirements of the sum formula of EN13001-3-1:2018 may no longer be sufficient due to the multiplication with factor 3 of τ_{\perp}^2 . In such cases either the A-dimension or f_{yw} shall modified.
- However, in the proof of fatigue strength for fillet welds below the crab rail the details 3.13 and 3.14 of Annex D still require $0.5 \cdot t \leq a \leq 0.7 \cdot t$.