Release Notes
PONTI®compositeSteel

Version 18.0

Build	Module	Description	ID
27.11.18	General	Adjustments to the current program version TRIMAS® 18.0.	13137
04.10.18	General	Adjustments to the current program version TRIMAS® 18.0.	12990
09.08.18	General	Adjustments to the current program version TRIMAS® 18.0.	12860
12.06.18	General	Adjustments to the current program version TRIMAS® 18.0.	12687
07.05.18	Generation	For haunched steel girders which are not active in the first construction state, the haunches were not transferred to the design.	11747
07.05.18	VQ1	**Cross-section classification of hollow girders** Possibly existing overhangs were not considered in the cross-section classification of the top and bottom chord.	12313

Version 17.0

Build	Module	Description	ID
01.02.18	General	Adjustments to the current program version TRIMAS® 17.0.	12320
17.11.17	General	Adjustments to the current program version TRIMAS® 17.0.	12127
19.10.17	VQ1	**Setting a calculative value of the concrete's E-modulus** Is the E modulus Ecm edited when entering the material property of the concrete, then this value is dependably transferred as calculation value of the E modulus when leaving the input field.	10242
05.05.17	General	Adjustments to the current program version TRIMAS® 17.0.	11359
02.05.17	Calculation	The load values for a particular partial cross-section are calculated from the density Rho of the material for acceleration loads of composite cross-sections.	11231
14.03.17	Design	**Limitation of the concrete stresses** Now not only the minimum concrete compressive stresses, but also the maximum concrete tensile stresses, are displayed in the infrequent / rare combination of actions. Provided only cross-sections variants in condition I exist, the "cracked areas" can now be determined. A cracked area exists, if the concrete tensile stresses are > fcteff. Only cross-section variants in condition II, i.e. considerably reduced stiffnesses, may be applied in the cracked areas.	10176
14.03.17	VQ1	The up-to-date sections of the cross-section database in TRIMAS are used for the rolled sections. Hereby, a consistent transition between the composite steel cross-section input and the system input in TRIMAS can be ensured.	5300
14.03.17	VTR	**Control of the analysis output** The dialog for the control of the output extent is already reasonably preallocated. This can be adjusted at all times, whereat the settings are saved now. In addition, there is a group function (ULS, SLS, FLS, Prestressing) with which entire blocks of analyses can be enabled or disabled. The results of enabled blocks of analyses, respectively, of not ticked analysis are not being issued. Furthermore, the results are now being saved and can be displayed at anytime via the *Navigator -> Show lists*.	10561
14.03.17	Design	**Dowel analyses** The number of dowel rows has been increased to 10.	6778
14.03.17	Generation	Information about *reinforced concrete* cross girders with a *polygonal cross-section definition* is written into a .btc file.	10496

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Version 16.0

Build	Module	Description	ID
28.11.16	General	Adjustments to the current program version TRIMAS® 16.0.	10625
14.10.16	General	The program terminated when starting the design or the secondary effects calculation, if the version of the result database (32 / 64-bit) did not correspond with the programs database. Now, a dialog with the appropriate message is displayed and the program is stopped.	9757
14.10.16	VTR	**Possible support settlement** If a possible support settlement has been entered, these load cases are filtered out of all SLS combinations.	10320
17.05.16	General	Adjustments to the current program version TRIMAS® 16.0.	9886
04.04.16	General	Adjustments to the current program version TRIMAS® 16.0.	9740
16.02.16	General	Program modifications for the **compatibility with Windows 10**.	9536
16.02.16	VQ1	**Weight of steel section** The dimension of the weight in [kg/m] in the input dialog was too small by the power of ten. The dead load is not effected by this and was correct, respectively.	9589
16.02.16	VTR	**Footbridges** In the ULS the uniformly distributed traffic load U and the axle traffic load P are applied exclusionary, while they are applied concurrently for road bridges. For all ULS analyses of the elastic and plastic moment bearing capacity, of the elastic and plastic shear force bearing capacity and the elastic and plastic NMV-interaction it is now checked, whether the uniformly distributed loads or axle loads act unfavorable.	9231

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Version 15.0

Build	Module	Description	ID
15.12.15	General	Adjustments to the current program version TRIMAS® 15.0.	9619
05.11.15	General	Adjustments to the current program version TRIMAS® 15.0.	9393
15.09.15	General	Adjustments to the current program version TRIMAS® 15.0.	9316
02.08.15	VTR	**Minimum reinforcement for the limitation of the crack width** The tensile concrete edge stresses are now issued with 2-digits.	9122
02.08.15	Design	The user-defined Lambda2 value is also considered in the analysis. The value can be < 1.1.	8948
02.08.15	VQ1	The **effective slab widths** in the bottom flange of **I-beams** were calculated incorrectly.	9126
02.08.15	VTR	**Concrete tensile strength fctm of a VFT cross-section** The material number of the prefabricated unit material was imported incorrectly.	9127
02.08.15	VTR	**Shear bearing capacity of the concrete chord** The design value is now calculated with alfacc = 0.85 according to DIN EN.	9114
20.05.15	General	Adjustments to the current program version TRIMAS® 15.0.	9089
22.04.15	Generation	The secondary construction states are generated automatically when entering a new project. Here, in the hitherto existing Version 15.0, the data from the previous construction state was only copied incompletely, so that the calculation of these new construction states was not possible	8922
16.03.15	General	Adjustments to the current program version TRIMAS® 15.0.	8867
27.02.15	General	Adjustments to the current program version TRIMAS® 15.0.	8829
27.02.15	Design	**Fatigue analysis reinforcement steel** The fatigue analysis has been restructured. Hereby, the stress amplitudes are calculated from 1. AC max My + ELM and AC max My - ELM 2. AC min My + ELM and AC min My - ELM The concrete part of tension flanges is no longer considered in the stress sums, but at the end. This concrete part for tensile loading is considered with the factor 0,20 according to DIN EN 1994 (according to DIN-Fb 104 with the factor 0,40), if SigE > fctm.	8023
27.02.15	Design	**Fatigue structural steel UE bottom flange** The headline of the nominal stresses has been corrected.	8018

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Version 14.0

Build	Module	Description	ID
02.02.15	Calculation	In the calculation of ***haunched*** **composite steel bridges** the torsional stiffness has always been calculated with It = 0.0001m4 in the haunched areas and was therefore set too low, especially for box cross-sections.	8583
22.10.14	General	Adjustments to the current program version TRIMAS® 14.0.	8475
22.09.14	General	Adjustments to the current program version TRIMAS® 14.0.	8397
22.09.14	Design	**Increase factor LM3** The increase factor of 1,4 in the span and 1,75 in the support area has not to be considered and is generally set to 1,00.	7806
22.09.14	VQ1	**Printout of the cross-section data via VQ1** The bending moment of inertia of the partial cross-sections is now issued with the correct dimension in the printout. These results with the wrong dimension had no influence on the calculation, but were solely recorded incorrectly in the result list.	8354
10.03.14	General	Adjustments to the current program version TRIMAS® 14.0.	7783
22.02.14	General	Adjustments to the current program version TRIMAS® 14.0.	7750
28.01.14	General	Adjustments to the current program version TRIMAS® 14.0.	7566
28.01.14	VTR	**admissible steel stresses in the SLS** The partial safety factors were set to 1.0 for all applications according to the EN standards.	7337

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Version 13.0

Build	Module	Description	ID
05.11.13	General	Adjustments to the current program version TRIMAS® 13.0.	7287
10.10.13	General	Adjustments to the current program version TRIMAS® 13.0.	7038
04.09.13	General	Adjustments to the current program version TRIMAS® 13.0.	7107
08.07.13	General	Adjustments to the current program version TRIMAS® 13.0.	6127
25.06.13	General	**Support list with information about the support forces and deformations** According to DIN EN 1990/NA/A1:2012, a support list with corresponding support forces can be issued.	6819
25.06.13	General	Now, the **release notes** are available in **English**.	6458
25.06.13	General	Program modifications for the **compatibility with Windows 8**.	6371
25.06.13	Input	When editing cross-section variants via Beam->Edit->Variant, the number of the cross-section variant and of the contributing area can be input directly. The selection has not necessarily to be made via the suggestion list.	6629
25.06.13	Input	The note that a second entity of VQ1 is started has been removed.	6327
25.06.13	VQ1	**Structural steel materials according to DIN EN 1994-2/NA** As per German national annex, structural steel S235 to S460 may be used. An approval of the individual case for S460 is not necessary anymore. The structural steel S420 has been added.	6752
25.06.13	VQ1	**Concrete materials as per DIN EN 1994-2/NA** According to ARS 22/2012 only normal strength concretes C30/37 to C50/60 may be used. As per all other EN standards, normal strength concretes and high-strength concretes up to C60/75 can be selected. Lightweight concretes, that are only allowed in individual cases, are not selectable in the program.	6751
25.06.13	VTR	**Minimum reinforcement according to DIN EN 1994-2/NA** The minimum reinforcement cross-section is calculated slightly modified compared to all other standards with a k-coefficient of 0.7 according to DIN EN 1994-2/NA.	6774
25.06.13	VTR	**Crack width limitation** For crack width limitation in longitudinal direction the procedures according to EN1994-2, which are identical with those from DIN Fb 104, are valid. In transverse slab direction, however, a smaller admissible crack width is required according to DIN EN 1994-2/NA.	6773
25.06.13	VTR	**Design value of the concrete strength** In contrast to DIN Fachbericht, the design value of the concrete strength fcd is calculated with alfacc=1.0.	6764
25.06.13	VTR	**General customizations according to EN 1994-2 with national annexes for SLS** - concrete compressive stresses: the admissible value has been modified as per EN standards - crack width limitation: the reference concrete tensile strength in the calculation of the steel stresses / the limiting diameter has been modified	6749
25.06.13	VTR	**Dowel capacity according to DIN EN 1994-2/NA** In the calculation of the longitudinal shear capacity of shear stud connectors, the analysis against concrete failure in the area of the stud base has been modified. The analysis against shear off in the bolt shank (steel failure) remained the same. In the servicability limit state it is shown, that the maximum longitudinal shear force in the composite joint does not exceed the 0,6-fold design value of the dowel capacity.	6748
25.06.13	VTR	**Action combinations according to DIN EN 1994-2/NA** According to the new standard - as for all other Eurocode standards - the "infrequent" combination is replaced by the "rare", respectively, "characteristic" combination. This concerns the layout of the minimum reinforcement, all analyses for stress limitation in the SLS, as well as the fatigue analyses for railway bridges. The crack width limitation is always carried out in the "frequent" combination.	6746

Build	Module	Description	ID
25.06.13	Design	**Fatigue analysis reinforcing steel** For precast composite cross-sections the decisive concrete material is used for the particular layer, which can vary between precast element and in-situ concrete slab.	6237
25.06.13	Evaluation	The icon "Composite bridge" is reactivated in the evaluation, so that it is possible to switch to the respective menu. The results for the steel composite design can be evaluated again for all beams which were designed with the steel composite program.	6482
25.06.13	Input	When editing cross-section variants via *Beam->Edit->Variant*, the variant field is no longer blank if a cross-section variant is specified by selecting from the suggestion list.	6473
25.06.13	VTR	**Primary stress resultants due to shrinkage** For the elastic moment bearing capacity and the stress limitation in the SLS the primary stress resultants are no longer considered, if the concrete chord is cracked.	6737
25.06.13	VTR	**Lambda1 coefficient for railway bridges** The Lambda 1 value was always calculated automatically for road bridges. For railway bridges this was performed analogous, which is not correct. The program now determines the Lambda 1 values for railway bridges depending on - the span and system for the "common railway traffic" according to EN 1992-2 for reinforcement - the span for "typical railway traffic" according to EN 1993-2 for structural steel. According to EN 1993-2, it is only distinguished between "typified railway traffic", "S- and U-Bahn", respectively, "25t railway traffic". The different types of trains according to DIN Fb 103 are no longer relevant. **Lambda2 coefficient for structural steel in road bridges** According to ARS 22/2012 the coefficient may not be less than 1.1, which is checked by the program.	5343