

# CRANEGIRDER EC3 - Update information

## Version 1.2.4

1. Deformations control of flange for monorail corrected without dynamic factor for lateral load
2. Detailed result now also including deformation in y-direction
3. Detailed result now also including deformation control of flange for monorail

## Version 1.2.3

1. Calculation of flange bending for monorail revised if distance between wheel is less than  $1.5 \cdot \text{flange width}$

## Version 1.2.2

1. Fatigue for single stress corrected without potens, ref EN 1993-1-9, eq 8.2
2. Calculation correction for for fatigue detail 3 for cranegrider with two cranes working simultaneously
3. Calculation correction for for fatigue detail 4 for cranegrider with two cranes working simultaneously
4. Resistance of the web to wheel load for overhead crane, now based on dimensioning wheel load including loadfactor and dynamic factor
5. Gangway load is set to 0 for Monorail
6. Wheel load for crane 2 taken as max from all wheels and not from wheel 1 to 2. Effects Fatigue calculation for detail 3 for two cranes with more than 2 wheels for crane 2.
7. Fatigue for detail 3 for crane 2, correction of beam shear stress value. Usage factor is correct.
8.  $\Psi_{i0}$  – factor for crane 2 can now be given if crane 1 and 2 are working independently. Valid for ULS/SLS

## Version 1.2

1. The program includes rule updates until july 2014
2. It and Iw values for profile is corrected
3. IPN profile added to rolled profiles, based on DIN 1025-1
4. Input correction for fatigue of beams splices, when number of span is reduced
5. Position for Vz-control updated
6. Font type changed on all screens from Ms Sans Serif to Arial

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7. Lateral torsional buckling  $M_y$  and  $M_z$  moment are now taken at same position
8. C-values for calculation of  $M_{cr}$  is updated, specially C1-value for beam lateral loaded with fixed/fixed support
9. Lateral torsional buckling in combination with  $M_z$ -moment is based on eq 6.6.1 with  $k_{yy}=k_{yz}=1.0$
10. Crane positions for lateral torsional buckling is now given

## Version 1.1

1. V4/H4 for monorails mixed position in print out. Calculation is correct.
2. Graphic position of beam splices updated
3. Monorail – local wheel load control now based on load\*loadfactor
4. Monorail – stress control is now also made for serviceability limit state,
5. ref ch 7.5 in EN 1993-6
6. Crane positions is now given for  $M_y/V_z$  (detailed result)
7. Crane can now start outside and stop outside the beam, which means that for example a simply supported beam can be calculated
8. Option to have constant distance between crane 1 and crane 2. This means also that for example a crane with 8 wheels can be calculated.
9. Reference for local stress in web corrected to EN 1993-6 (from 1993-1-5)
10. Moment capacity of beam corrected for lateral buckling. Interaction ratio is correct.
11. Default deformation limit now set to  $L/600$  also for horizontal deflection
12. Updated beam input form
13. Correction of  $R_{ymin}$  at start support
14. Export to Excel of reactions corrected
15. Reinforcement of top flange with flatbars now an option