**COMPOSITE – Fire resistance**

| Error code | Error message |
|---|---|
| **E/01** | *The structural type of the member is not supported.* |
| **E/02** | *Effective width is not allowed to be zero.* |
| **E/03** | *The cross-section of the member is not supported.* |
| **E/05** | *The analysis model of the slab is not supported!* |
| **E6/09** | *Extreme shear. Bending moment resistance not designable.* |
| **E6/19** | *Not enough space to place connectors on the beam flange.* |
| **E/10** | *Height of the slab $h_s$ is in conflict with depth of the ribs $h_p$.* |
| **E/11** | *Height of the slab $h_s$ is in conflict with nominal height of the shear connectors $h_{sc}$.* |
| **E/12** | *Wrong input for the calculation of $b_{eff}$. Calculation did not finish.* |
| **E/13** | *Members without composite action are not supported. Please check the member according to EN 1993-1-1.* |
| **E/15** | *The plastic neutral axis is located outside of the steel section.* |
| **E/16** | *Type of connection in the slab is not supported.* |
| **E/17** | *Composite beam data missing.* |
| **E/18** | *Incorrect material of the slab.* |
| **E/20** | *Height of the slab $h_s$ is in conflict with depth of the ribs $h_p$ and height of the re-entrant stiffener $h_d$.* |
| **E/21** | *Incorrect position of the reinforcement within the slab.* |
| **E/26** | *Compression capacity of top Tee is not sufficient.* |
| **E/27** | *Openings are in collision with steel section geometry.* |
| **E/28** | *Fire resistance checks are not performed on beams with web openings. Please switch off the openings in order to run the fire resistance check.* |

| Warning code | Warning message |
|---|---|
| **W3/05** | *Concrete material of the slab does not conform to EN 1994-1-1 Art. 3.1 (2).* |
| **W3/06** | *Steel material of the beam does not conform to EN 1994-1-1 Art. 3.3 (2).* |
| **W3/07** | *The nominal thickness of steel sheeting is smaller than minimum recommended value given by EN 1994-1-1 Art. 3.5 (2).* |
| **W/04** | *The angle between the member and ribs of profiled steel sheeting is bigger than 10 degrees. Member is evaluated as transverse beam.* |
| **W6/01** | *The shear buckling resistance of the web needs to be verified.* |
| **W6/02** | *Condition given by EN 1994-1-1 Art. 6.6.5.7 (1) is not fulfilled.* |
| **W6/03** | *The conditions given by EN 1994-1-1 Art.6.6.4.2 (3) are not fulfilled.* |
| **W6/04** | *The actual angle of concrete strut is outside the limits.* |
| **W6/08** | *The cross-section is not qualified for verification of LTB by the simplified method.* |
| **W6/09** | *Condition given by EN 1994-1-1 Art. 6.6.5.6 (2) is not fulfilled.* |
| **W6/10** | *Condition given by EN 1994-1-1 Art. 6.6.5.7 (4) is not fulfilled.* |
| **W6/11** | *Condition given by EN 1994-1-1 Art. 6.6.5.7 (5) is not fulfilled.* |
| **W6/12** | *Condition given by EN 1994-1-1 Art. 6.6.5.8 (1) is not fulfilled.* |
| **W6/13** | *Condition given by EN 1994-1-1 Art. 6.6.5.8 (2) is not fulfilled.* |
| **W6/14** | *Conditions given by EN 1994-1-1 Art. 6.6.1.2 (1) are not fulfilled.* |
| **W6/17** | *Condition given by EN 1994-1-1 Art. 6.6.5.5 (3) is not fulfilled.* |
| **W6/18** | *Condition given by EN 1994-1-1 Art. 6.6.5.7 (4) is not fulfilled.* |
| **W6/19** | *Height of a full slab is smaller than 40mm.* |
| **W6/20** | *Unsuitable Web Class.* |
| **W6/21** | *Unsuitable Flange Class.* |
| **W6/22** | *Unsuitable cross-section classification.* |
| **W6/23** | *The shear connection degree is not adequate.* |

| | |
|---|---|
| **W6/24** | *Full degree of shear connection is required according to EN 1994-1-1, Art. 6.2.1.3 (2).* |
| **W/16** | *Maximum number of studs is exceeded.* |
| **W/25** | *For a continuous beam, intermediate buckling supports y-y are ignored in both the calculation of the effective width for the analysis model and the check.* |
| **W/26** | *Deflection limit is set to zero in composite setup, thus cannot be fulfilled.* |
| **W/27** | *Camber is neglected in moment-connected beams.* |
| **W/28** | *Degree of longitudinal reinforcement is greater than 1 and it can not be changed by design. Please check and modify your calculation setting.* |
| **W/29** | *Longitudinal shear reinforcement check is greater than 1 and it can not be changed by design. Please check and modify your calculation setting.* |
| **W/30** | *Crushing of concrete flange check is greater than 1 and it can not be changed by design. Please check and modify your calculation setting.* |
| **W/31** | *Natural frequency check is greater than 1 and it can not be changed by design. Please check and modify your calculation setting.* |
| **W/32** | *Cracking of concrete check is greater than 1 and it can not be changed by design. Please check and modify your calculation setting.* |
| **W/33** | *Member has no zero-moment so it is not eligible for stud design.* |
| **W/34** | *Number of studs required for the degree of connection exceeds the number allowed by minimum spacing requirement.* |
| **W/35** | *A suitable design option could not be found which satisfied spacing requirements. Revise input.* |
| **W/36** | *Opening check is not performed for negative bending moment.* |
| **W/38** | *Unsuitable classification of Top Tee.* |
| **W/39** | *Unsuitable classification of Bottom Tee.* |
| **W/40** | *Optimisation reaching the limit. Unable to increase steel section.* |
| **W/41** | *Resistance of the reinforcement is limited to resistance of the steel section.* |
| **W/42** | *Conditions given by EN 1994-1-1 Art. 6.6.5.7 (4) is not fulfilled, zero distance between studs in transverse direction defined.* |
| **W/43** | *Advanced composite action has been activated in 1D member properties. The check assumptions are not valid in this case. Please verify input.* |
| **W/44** | *Conditions for applying rules given by SCI P405 Chapter 5.3 were not fulfilled. Minimum degree of shear connection is calculated according to SCI P405 chapter 5.1. Maximum stud spacing according to the publication has been considered.* |
| **W/45** | *Conditions for applying rules given by SCI P405 Chapter 5.1 were not fulfilled. Minimum degree of shear connection is calculated according to SCI P405 chapter 5.3. Maximum stud spacing according to the publication has been considered.* |
| **W/46** | *Conditions for applying rules given by SCI P405 were not fulfilled. Minimum degree of shear connection is calculated according to EN 1994-1-1.* |
| **W/47** | *Maximum stud spacing limit given by SCI P405 is not fulfilled.* |
| **W/48** | *Openings with Cross-section shape are not supported for the design.* |
| **W/49** | *Interfering openings are not considered for the design.* |
| **W/50** | *Openings with non-zero rotation or Z-orientation are not supported for the design.* |
| **W/52** | *Openings breaching steel section span are not considered for the design.* |
| **W/53** | *Practical geometric limits given by SCI P355 Table 2.1 are not met for all openings.* |
| **W/54** | *Geometry recommendations for stiffened openings given by SCI P355 were not fulfilled.* |
| **W/55** | *Using the number of studs corresponding the degree of composite action, this member would fail the detailing check for maximum spacing. Therefore, the studs shown on the stud layout diagram and in the label reflect the minimum number of studs required to meet the maximum spacing requirement rather than the actual degree of composite action.* |
| **W/56** | *Automatic design of sheet welded cross-section is not supported.* |

| Note code | Note message |
|---|---|
| N/01 | *The angle between the member and the ribs of profiled steel sheeting is smaller than 10° thus the ribs are considered as parallel to the beam.* |
| N/02 | *The angle between the direction perpendicular to the member and the ribs of profiled steel sheeting is smaller than 10° thus the ribs are considered as transverse to the beam.* |
| N3/07 | *The effects of autogenous shrinkage is neglected according to EN 1994-1-1 Art 3.1 (4).* |
| N6/03 | *The bending moment resistance is reduced due to the influence of the vertical shear.* |
| N6/04 | *The effects of incomplete interaction are not taken into account.* |
| N6/05 | *A reduced value of compressive force $N_{c,f}$ is used according to the EN 1994-1-1 Art.6.2.1.3 (3).* |
| N6/06 | *Minimum degree of shear connection is calculated according to EN 1994-1-1 6.6.1.2 (3).* |
| N/07 | *Selected type of load does not contain ULS Construction stage load.* |
| N/08 | *Selected type of load does not contain ULS Final stage load.* |
| N/09 | *Selected type of load does not contain SLS Construction stage load.* |
| N/10 | *Selected type of load does not contain SLS Final stage load.* |
| N/11 | *The construction stage ULS check is not performed for propped members.* |
| N/13 | *The shear connectors are welded to the beam through the steel sheeting, which provides continuous restraint to the top flange of the steel beam, so the beam is not susceptible to lateral torsional buckling.* |
| N/14 | *For buildings not intended mainly for storage the effects of creep in concrete beams may be taken into account by using an effective E modulus $E_{c,eff} = E_{cm}/2$.* |
| N/15 | *Roundings of the steel cross-section are neglected in bending resistance calculation.* |
| N/16 | *The shear connectors are rigidly connected with the concrete slab, which provides continuous restraint to the top flange of the steel beam, so the beam is not susceptible to lateral torsional buckling.* |
| N/17 | *The construction stage SLS check is not performed for propped members.* |
| N/18 | *Negative flexural strength determined using steel section alone.* |
| N/19 | *Deflection limit for construction stage is not defined.* |
| N/20 | *Deflection limit for final stage live load is not defined.* |
| N/21 | *Deflection limit for final stage total load is not defined.* |
| N/22 | *Number of studs based on degree of shear connection have been increased in order to fullfil maximum spacing requirement.* |
| N/23 | *Number of studs based on degree of shear connection have been increased in order to fullfil maximum spacing requirement.* |
| N/24 | *This member is set to 'Negative flexural strength determined using steel section alone' and has negative moment which controls. Therefore, the studs shown on the stud layout diagram and in the label reflect the minimum number of studs required to meet the maximum spacing requirement rather than the degree of composite action.* |
| N/25 | *This span is comprised of multiple members. For this reason, the stud layout diagram may not be accurate.* |
| N/26 | *Optimisation reaching the limit. Unable to decrease steel section.* |
| N/27 | *Minimum degree of shear connection is calculated according to SCI P405 chapter 5.1. Maximum stud spacing according to the publication has been considered.* |
| N/28 | *Minimum degree of shear connection is calculated according to SCI P405 chapter 5.3. Maximum stud spacing according to the publication has been considered.* |
| N/29 | *Deflections used for natural frequency check have been re-calculated using full shear connection.* |
| N/30 | *Deflections used for natural frequency check have been re-calculated using full shear connection and the dynamic concrete modulus of elasticity.* |
| N/31 | *Web posts wider than $5*l_o$ are not considered for the design.* |
| N/32 | *Number of studs have been determined according to rib spacing. The degree of composite action is different from what is defined on the beam.* |