

# Splice Connection SLS+

The english version of the SLS+ manual still needs to be translated and will be available in a later Release. Until then please have a look on the [german version](#).

## Inhaltsverzeichnis

Application options 2

### Basic Documentation – Overview

In addition to the individual program manuals, you will find basic explanations on the operation of the programs on our homepage [www.friilo.com](http://www.friilo.com) in the Campus-download-section.

*Tip: Go back - e.g. after a link to another chapter/document - in the PDF with the key combination "ALT" + "Left direction key"*

## Application options

The SLS+ program is used to design uniaxially loaded, bolted girder joints with straps. Rigid, flexible and hinged joints can also be verified.

### System (joint configuration)

- Rigid joint with web splice plates and chord straps
- Flexible joint with chord straps
- Hinged joint with web splice plates

An offset of the member axes can be considered between the members.

### Cross-sections

Rigid joint:

Beam sections

- I-sections as standard sections
- I-sections as user-defined sections

The sections can be defined differently in the members.

Straps

- Rectangular section as user-defined cross-section

In addition to the external straps, internal straps can optionally be arranged on the chords.

Flexible joint:

Beam sections

- I-sections as standard sections
- I-sections as user-defined sections
- Flat steel as standard section
- Flat steel as user-defined section

The sections can be defined differently in the members.

Straps

- Rectangular section as user-defined cross-section

Hinged joint:

Beam sections

- I-sections as standard sections
- I-sections as user-defined sections
- Flat steel as standard section
- Flat steel as user-defined section

The sections can be defined differently in the members.

## Straps

- Rectangular section as user-defined cross-section

## Loading

Design internal forces for joint calculation

- Nd, Vz and Myd (rigid / flexible joint)
- Nd and Vz (hinged joint)
- Input of several design internal force combinations possible

## Material

The material can be selected differently in the member on the right and left as well as in the straps. The following materials are available:

- Structural steel: S235, S275, S355, S450
- Structural steel annealed (S275N – S460N)
- Structural steel thermo (S275M – S460M)
- Structural steel weatherproof (S235W – S355W)
- Creep resistant steel (S460Q – S460QL1)
- Hollow section warm (S235H – S355H)
- Hollow section N (S275NH – S460NH)
- User-defined steel type

## Fasteners

The bolts can be selected differently in the web splice plates on the right and left member as well as in the chord straps above and below.

- Bolts (black bolts as well as fitted bolts)
- Sizes: M12, M16, M20, M22, M24, M27, M30, M36
- Strength classes: 4.6, 5.6, 8.8, 10.9

## Design

The program carries out the verifications required for the selected joint type in accordance with the selected design standard DIN EN 1993-1-8.

- Verification of shearing off the bolts
- Verification of bearing
- Cross-section verification
- Verification of local stability under compressive stress

## Output section

- Short
- Standard
- Detailed
- User-defined output scope

## File formats Document

PDF, Word

### Import options

- FRILO XML

### Export options

- Word, PDF, Nexus, FRILO XML, DXF file

### Standards

- DIN EN 1993
- ÖNORM EN 1993