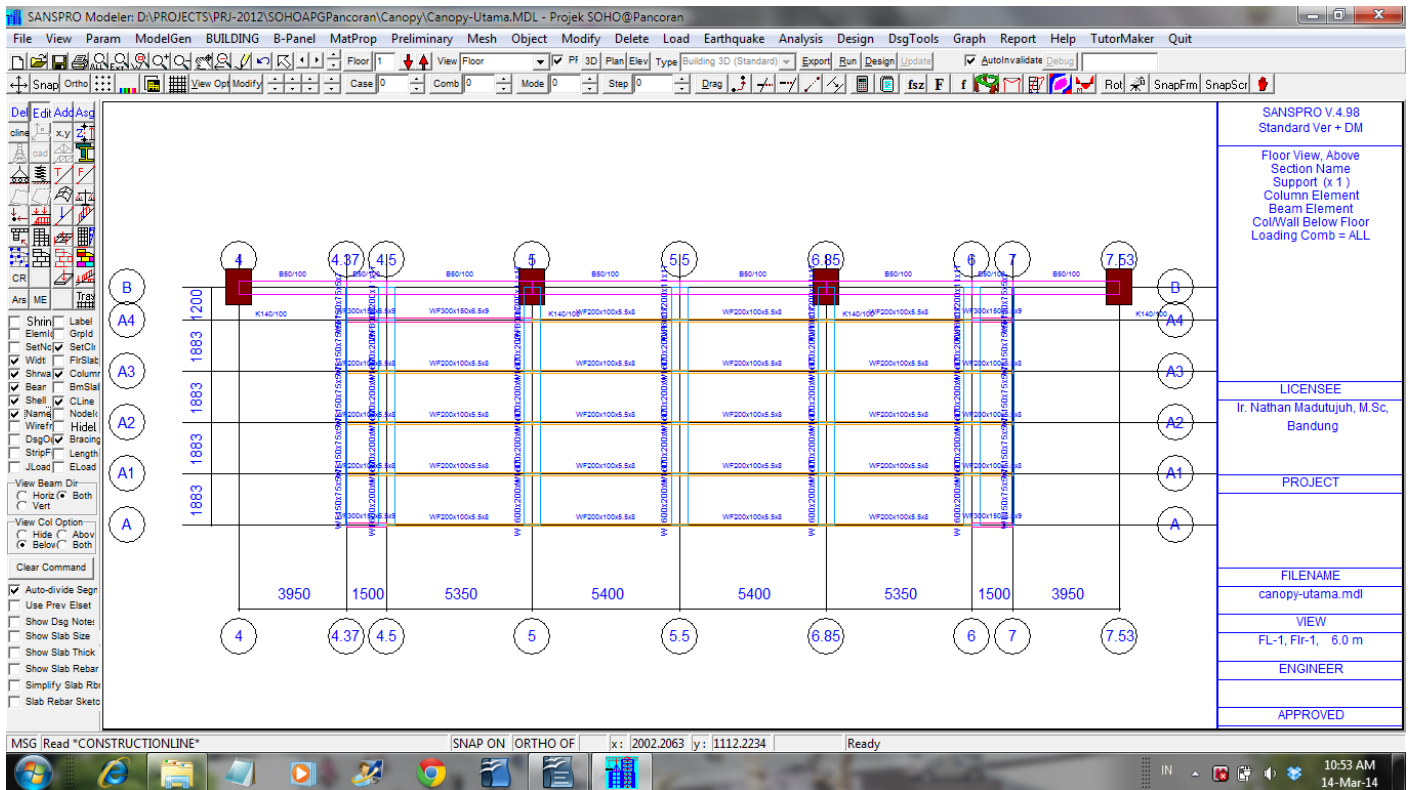


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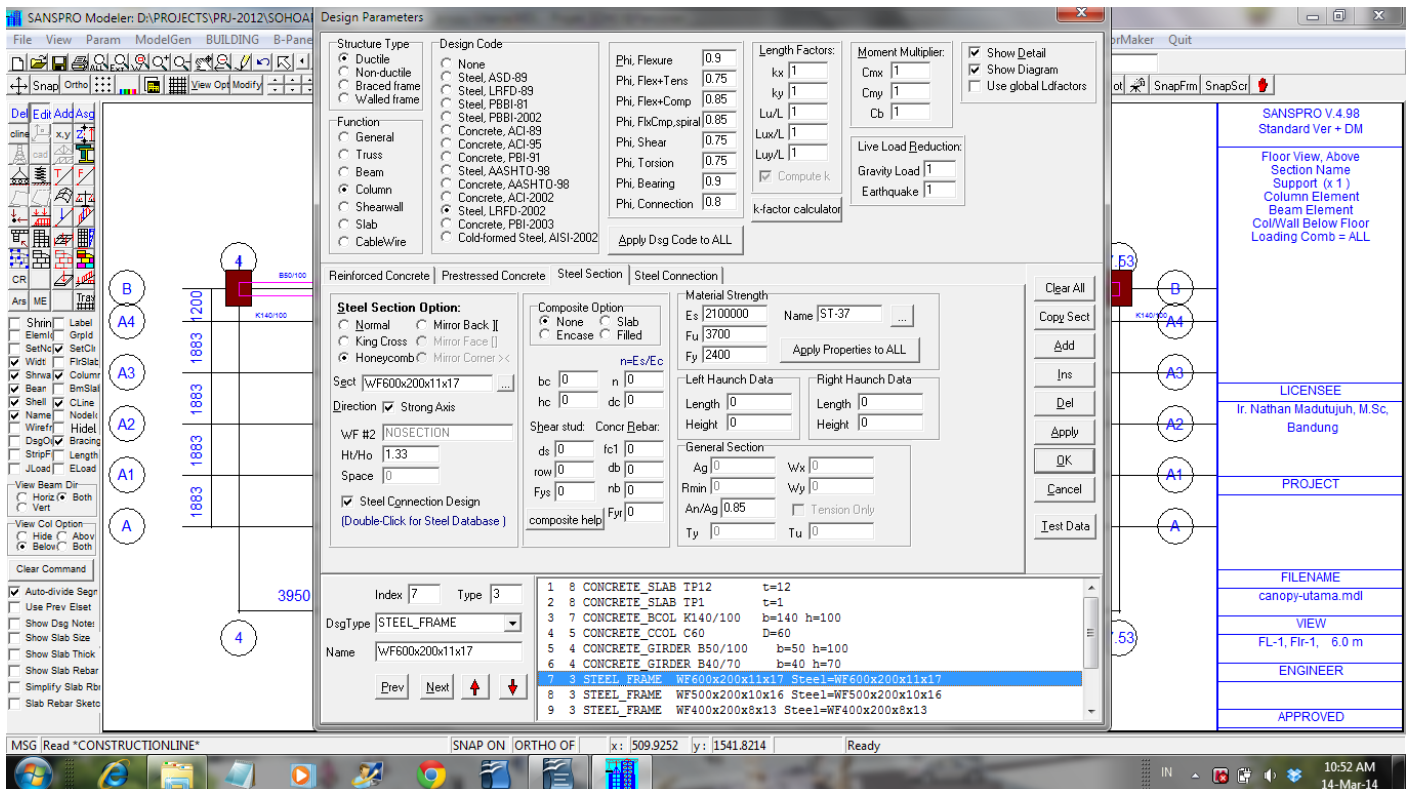
Steel Connection Design Guide

1. Steel Canopy Model



2. Steel Connection Parameters

Turn on Checkbox : Steel Connection Design



Enter Steel Connection Design Parameters:

Design Parameters

Design Code

- None
- Steel, ASD-89
- Steel, LRFD-89
- Steel, PBBI-81
- Steel, PBBI-2002
- Concrete, ACI-89
- Concrete, ACI-95
- Concrete, PCI-91
- Steel, AASHTO-98
- Concrete, AASHTO-98
- Concrete, ACI-2002
- Steel, LRFD-2002
- Concrete, PCI-2003
- Cold-Formed Steel, AISI-2002

Length Factors

Phi, Flexure: 0.9
 Phi, Flex+Tens: 0.75
 Phi, Flex+Comp: 0.85
 Phi, FlxComp, spiral: 0.85
 Phi, Shear: 0.75
 Phi, Torsion: 0.75
 Phi, Bearing: 0.9
 Phi, Connection: 0.8

Moment Multiplier

Cmx: 1
 Cmy: 1
 Cb: 1

Live Load Reduction

Gravity Load: 1
 Earthquake: 1

Reinforced Concrete

Steel Connection

Steel Connection Type: Beam-Col flange, end plate (Moment+Shear)

Limit States Check

- Tension
- Yielding
- Bearing
- Net Shear
- Block-shear
- Prying Action
- Stiffener

Connection Plate

Name: ST37
 Fup: 3700
 Fyp: 2400
 Fvp: 1440
 tp: 2

Bolt/Rivet/Screw Properties

Bolt Name: A325N
 Fub: 7384 An/Ag: 0.85
 Fyb: 5696 db: 2.1
 Fvb: 3376 Nrow: 1
 Nbrmin: 2

Welding Properties

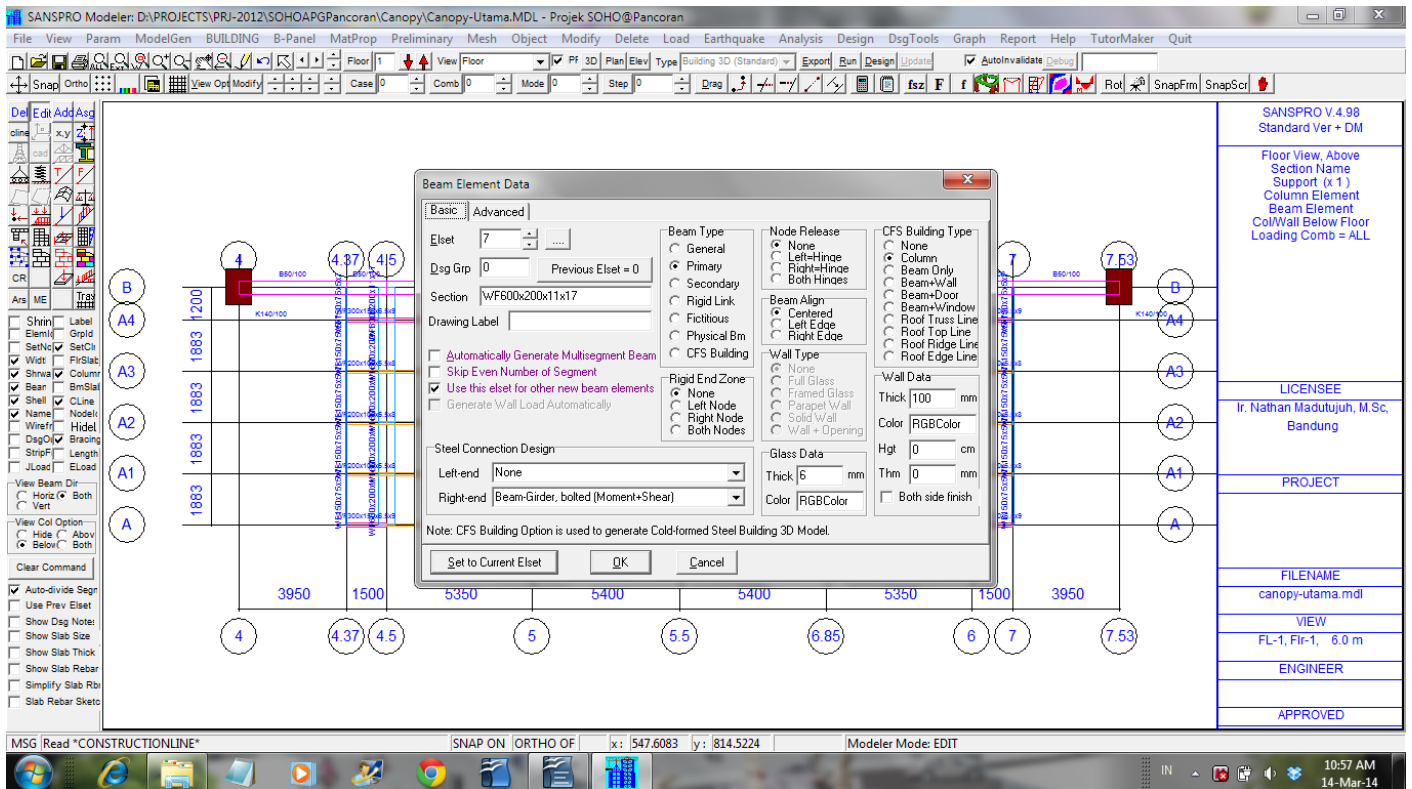
Fuw: 5063
 Fyw: 4219
 Fw: 2532
 tw: 0.625
 Lw, min: 4
 Electrode: E70XX
 Method: SMAW (Metal Shield)
 SAW (Submerged)

Table of Material Properties

Index	Type	Material	Property	Value
1	8	CONCRETE_SLAB	TP12	t=12
2	8	CONCRETE_SLAB	TP1	t=1
3	7	CONCRETE_BCOL	K140/100	b=140 h=100
4	5	CONCRETE_CCOL	C60	D=60
5	4	CONCRETE_GIRDER	B50/100	b=50 h=100
6	4	CONCRETE_GIRDER	B40/70	b=40 h=70
7	3	STEEL_FRAME	WF600x200x11x17	Steel1=WF600x200x11x17
8	3	STEEL_FRAME	WF500x200x10x16	Steel1=WF500x200x10x16
9	3	STEEL_FRAME	WF400x200x8x13	Steel1=WF400x200x8x13

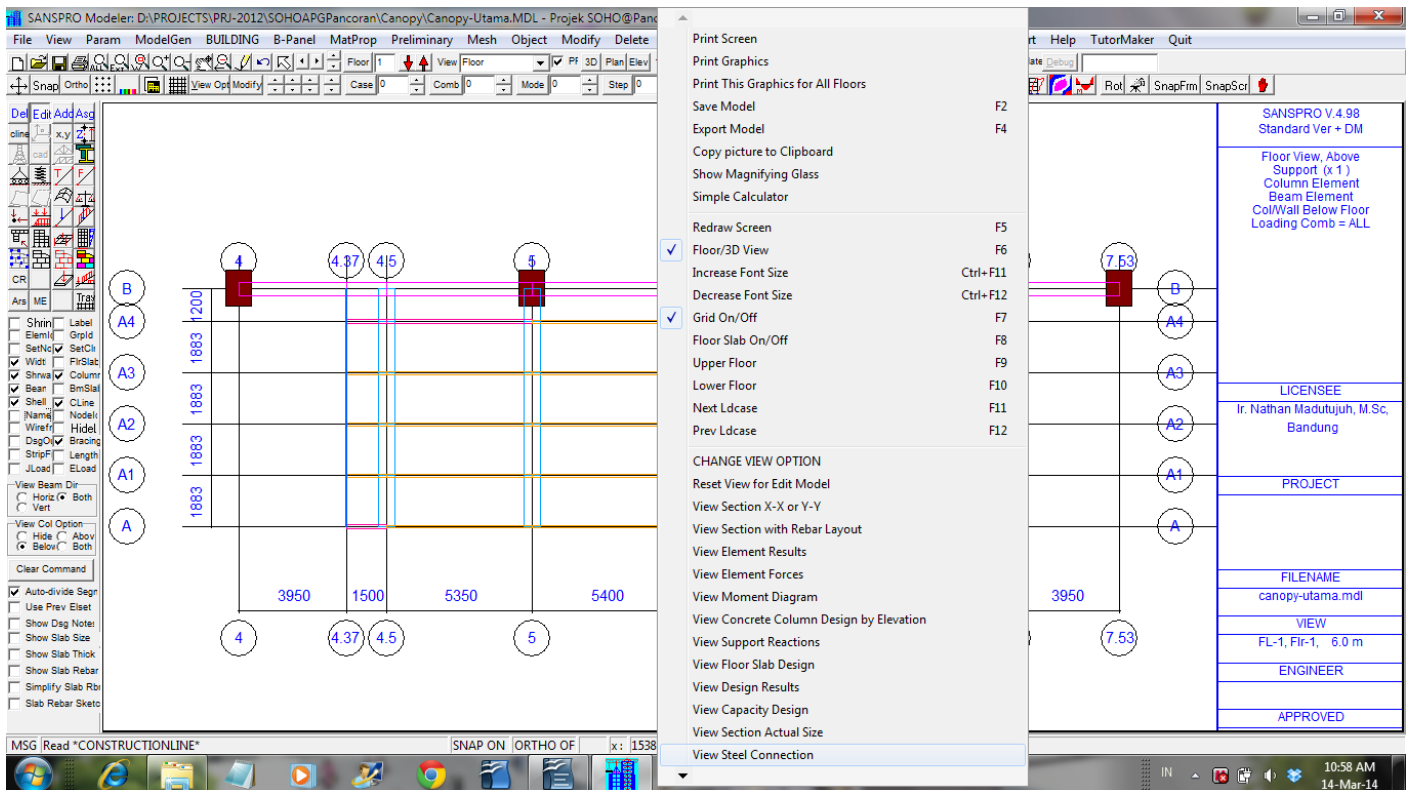
Bolt = A325N, Db = 2.0 cm, Tp = 2.0 cm, Nrow = 1, Nbrmin = 2
Weld = E70XX
Bolt spacing : s1,s2 (bolt spacing), sf (to flange), se1,se2 (to edge)

3. Selecting Beam for Steel Connection

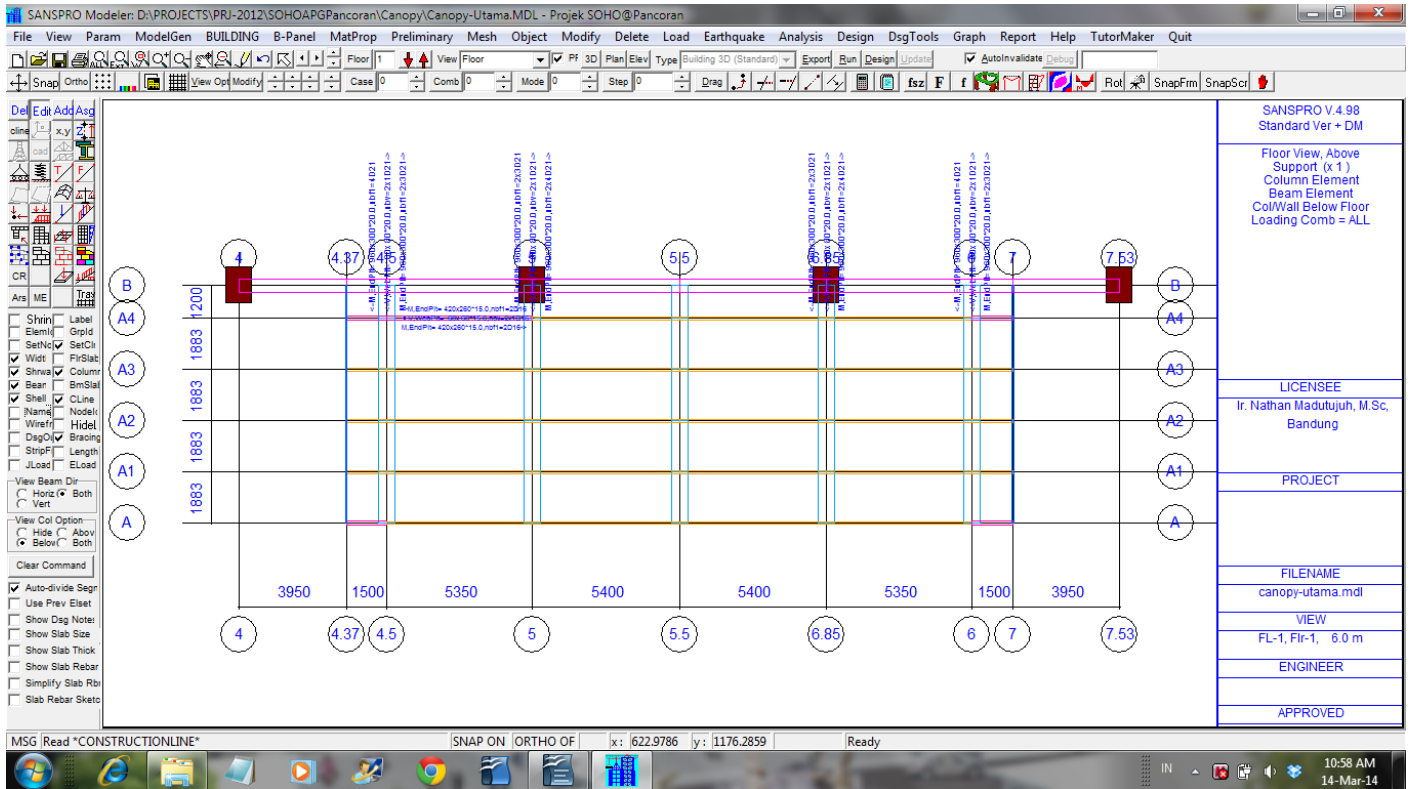


Select for Left End : Beam-Column Flange, End plate (Moment+Shear)
 Select for Right End : Beam-Column Flange, End plate (Moment+Shear)

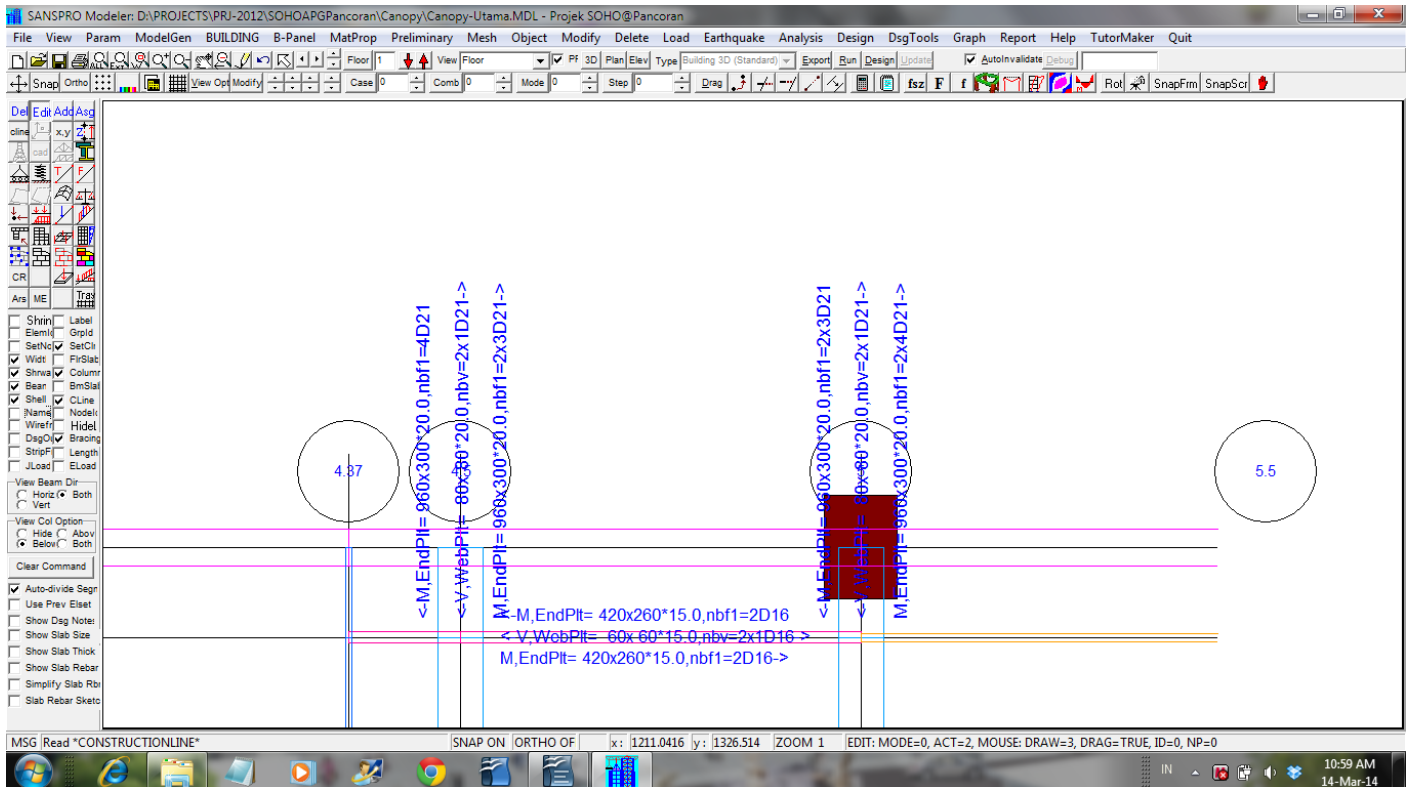
4. Steel Connection Design



Selected Beams connection will be displayed:



Zoom to display:



Output: End plate size, thickness, bolt at 1 flange, total bolt at web