

LAMPIRAN

Lampiran 1. Tabel Koefisien Respon Gempa Elastik Untuk $T < T_0$

Tabel 1 Tabel koefisien respon gempa elastik untuk $T < T_0$

$$C_{sm} = (SDS - A_s) \frac{T}{T_0} + A_s$$

T	Csm
0,000	0,496
0,010	0,526
0,020	0,556
0,030	0,586
0,040	0,616
0,050	0,645
0,060	0,675
0,070	0,705
0,080	0,735
0,090	0,765
0,100	0,795
0,110	0,825
0,120	0,855

Lampiran 2. Tabel Koefisien Respon Gempa Elastik Untuk $T_0 \leq T \leq T_s$

Tabel 1 koefisien respon gempa elastik untuk $T_0 \leq T \leq T_s$

$$C_{sm} = SDS$$

T	Csm
0.124	0.868
0.134	0.868
0.144	0.868
0.154	0.868
0.164	0.868
0.174	0.868
0.184	0.868
0.194	0.868
0.204	0.868
0.214	0.868
0.224	0.868
0.234	0.868
0.244	0.868
0.254	0.868
0.264	0.868
0.274	0.868

T	Csm
0.284	0.868
0.294	0.868
0.304	0.868
0.314	0.868
0.324	0.868
0.334	0.868
0.344	0.868
0.354	0.868
0.364	0.868
0.374	0.868
0.384	0.868
0.394	0.868
0.404	0.868
0.414	0.868
0.424	0.868
0.434	0.868
0.444	0.868
0.454	0.868
0.464	0.868
0.474	0.868
0.484	0.868
0.494	0.868
0.504	0.868
0.514	0.868
0.524	0.868
0.534	0.868
0.544	0.868
0.554	0.868
0.564	0.868
0.574	0.868
0.584	0.868
0.594	0.868
0.604	0.868
0.614	0.868
0.124	0.868
0.134	0.868
0.144	0.868
0.154	0.868
0.164	0.868
0.174	0.868
0.184	0.868
0.194	0.868
0.204	0.868
0.214	0.868

T	Csm
0.224	0.868
0.234	0.868
0.244	0.868
0.254	0.868
0.264	0.868
0.274	0.868
0.284	0.868
0.294	0.868
0.304	0.868
0.314	0.868
0.324	0.868
0.334	0.868
0.344	0.868
0.354	0.868
0.364	0.868
0.374	0.868
0.384	0.868
0.394	0.868
0.404	0.868
0.414	0.868
0.424	0.868
0.434	0.868
0.444	0.868
0.454	0.868
0.464	0.868
0.474	0.868
0.484	0.868
0.494	0.868
0.504	0.868
0.514	0.868
0.524	0.868
0.534	0.868
0.544	0.868
0.554	0.868
0.564	0.868
0.574	0.868
0.584	0.868
0.594	0.868
0.604	0.868
0.614	0.868
0.514	0.868

Lampiran 3. Tabel Koefisien Respon Gempa Elastik Untuk $T > T_s$

Tabel 1 Tabel koefisien respon gempa elastik untuk $T > T_s$

$C_{sm} = \frac{SD1}{T}$	
T	Csm
0.623	0.867
0.633	0.853
0.643	0.840
0.653	0.827
0.663	0.814
0.673	0.802
0.683	0.791
0.693	0.779
0.703	0.768
0.713	0.757
0.723	0.747
0.733	0.737
0.743	0.727
0.753	0.717
0.763	0.708
0.773	0.699
0.783	0.690
0.793	0.681
0.803	0.672
0.813	0.664
0.823	0.656
0.833	0.648
0.843	0.641
0.853	0.633
0.863	0.626
0.873	0.619
0.883	0.612
0.893	0.605
0.903	0.598
0.913	0.591
0.923	0.585
0.933	0.579
0.943	0.573
0.953	0.567
0.963	0.561
0.973	0.555

T	Csm
0.983	0.549
0.993	0.544
1.003	0.538
1.013	0.533
1.023	0.528
1.033	0.523
1.043	0.518
1.053	0.513
1.063	0.508
1.073	0.503
1.083	0.499
1.093	0.494
1.103	0.490
1.113	0.485
1.123	0.481
1.133	0.477
1.143	0.472
1.153	0.468
1.163	0.464
1.173	0.460
1.183	0.456
1.193	0.453
1.203	0.449
1.213	0.445
1.223	0.442
1.233	0.438
1.243	0.434
1.253	0.431
1.263	0.428
1.273	0.424
1.283	0.421
1.293	0.418
1.303	0.414
1.313	0.411
1.323	0.408
1.333	0.405
1.343	0.402
1.353	0.399
1.363	0.396
1.373	0.393
1.383	0.390
1.393	0.388
1.403	0.385
1.413	0.382

T	Csm
1.423	0.379
1.433	0.377
1.443	0.374
1.453	0.372
1.463	0.369
1.473	0.367
1.483	0.364
1.493	0.362
1.503	0.359
1.513	0.357
1.523	0.355
1.533	0.352
1.543	0.350
1.553	0.348
1.563	0.345
1.573	0.343
1.583	0.341
1.593	0.339
1.603	0.337
1.613	0.335
1.623	0.333
1.633	0.331
1.643	0.329
1.653	0.327
1.663	0.325
1.673	0.323
1.683	0.321
1.693	0.319
1.703	0.317
1.713	0.315
1.723	0.313
1.733	0.312
1.743	0.310
1.753	0.308
1.763	0.306
1.773	0.305
1.783	0.303
1.793	0.301
1.803	0.300
1.813	0.298
1.823	0.296
1.833	0.295
1.843	0.293
1.853	0.291

T	Csm
1.863	0.290
1.873	0.288
1.883	0.287
1.893	0.285
1.903	0.284
1.913	0.282
1.923	0.281
1.933	0.279
1.943	0.278
1.953	0.276
1.963	0.275
1.973	0.274
1.983	0.272
1.993	0.271
2.003	0.270
2.013	0.268
2.023	0.267
2.033	0.266
2.043	0.264
2.053	0.263
2.063	0.262
2.073	0.260
2.083	0.259
2.093	0.258
2.103	0.257
2.113	0.256
2.123	0.254
2.133	0.253
2.143	0.252
2.153	0.251
2.163	0.250
2.173	0.249
2.183	0.247
2.193	0.246
2.203	0.245
2.213	0.244
2.223	0.243
2.233	0.242
2.243	0.241
2.253	0.240
2.263	0.239
2.273	0.238
2.283	0.237
2.293	0.235

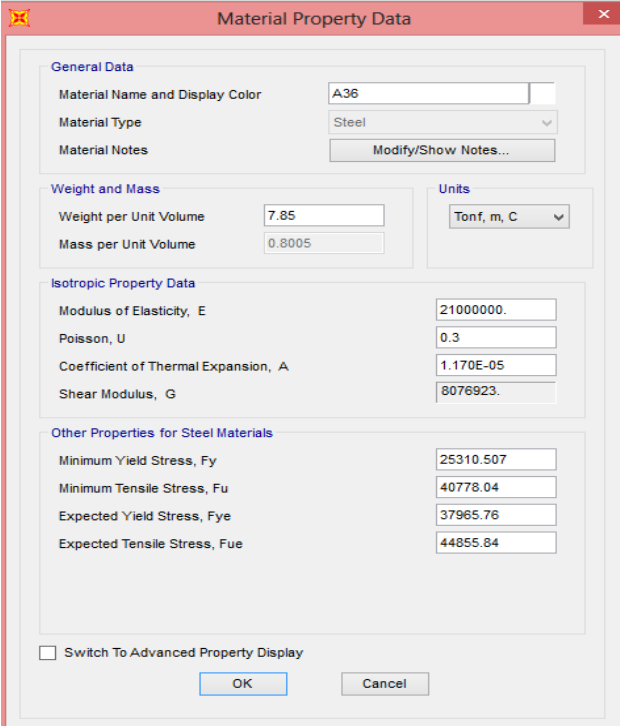
T	Csm
2.303	0.234
2.313	0.233
2.323	0.232
2.333	0.231
2.343	0.230
2.353	0.229
2.363	0.229
2.373	0.228
2.383	0.227
2.393	0.226
2.403	0.225
2.413	0.224
2.423	0.223
2.433	0.222
2.443	0.221
2.453	0.220
2.463	0.219
2.473	0.218
2.483	0.217
2.493	0.217
2.503	0.216
2.513	0.215
2.523	0.214
2.533	0.213
2.543	0.212
2.553	0.212
2.563	0.211
2.573	0.210
2.583	0.209
2.593	0.208
2.603	0.207
2.613	0.207
2.623	0.206
2.633	0.205
2.643	0.204
2.653	0.204
2.663	0.203
2.673	0.202
2.683	0.201
2.693	0.201
2.703	0.200
2.713	0.199
2.723	0.198
2.733	0.198

T	Csm
2.743	0.197
2.753	0.196
2.763	0.195
2.773	0.195
2.783	0.194
2.793	0.193
2.803	0.193
2.813	0.192
2.823	0.191
2.833	0.191
2.843	0.190
2.853	0.189
2.863	0.189
2.873	0.188
2.883	0.187
2.893	0.187
2.903	0.186
2.913	0.185
2.923	0.185
2.933	0.184
2.943	0.183
2.953	0.183
2.963	0.182
2.973	0.182
2.983	0.181
2.993	0.180
3.003	0.180
3.013	0.179
3.023	0.179
3.033	0.178
3.043	0.177
3.053	0.177
3.063	0.176
3.073	0.176
3.083	0.175
3.093	0.175
3.103	0.174
3.113	0.173
3.123	0.173
3.133	0.172
3.143	0.172
3.153	0.171
3.163	0.171
3.173	0.170

T	Csm
3.183	0.170
3.193	0.169
3.203	0.169
3.213	0.168
3.223	0.168
3.233	0.167
3.243	0.167
3.253	0.166
3.263	0.165
3.273	0.165
3.283	0.164
3.293	0.164
3.303	0.163
3.313	0.163
3.323	0.163
3.333	0.162
3.343	0.162
3.353	0.161
3.363	0.161
3.373	0.160
3.383	0.160
3.393	0.159
3.403	0.159
3.413	0.158
3.423	0.158
3.433	0.157
3.443	0.157
3.453	0.156
3.463	0.156
3.473	0.155
3.483	0.155
3.493	0.155
3.503	0.154
3.513	0.154
3.523	0.153
3.533	0.153
3.543	0.152
3.553	0.152
3.563	0.152
3.573	0.151
3.583	0.151
3.593	0.150
3.603	0.150
3.613	0.149

T	Csm
3.623	0.149
3.633	0.149
3.643	0.148
3.653	0.148
3.663	0.147
3.673	0.147
3.683	0.147
3.693	0.146
3.703	0.146
3.713	0.145
3.723	0.145
3.733	0.145
3.743	0.144
3.753	0.144
3.763	0.144
3.773	0.143
3.783	0.143
3.793	0.142
3.803	0.142
3.813	0.142
3.823	0.141
3.833	0.141
3.843	0.141
3.853	0.140
3.863	0.140
3.873	0.139
3.883	0.139
3.893	0.139
3.903	0.138
3.913	0.138
3.923	0.138
3.933	0.137
3.943	0.137
3.953	0.137
3.963	0.136
3.973	0.136
3.983	0.136
3.993	0.135
4	0.135

Lampiran 4. *Input Material Dan Profil-Profil Baja*

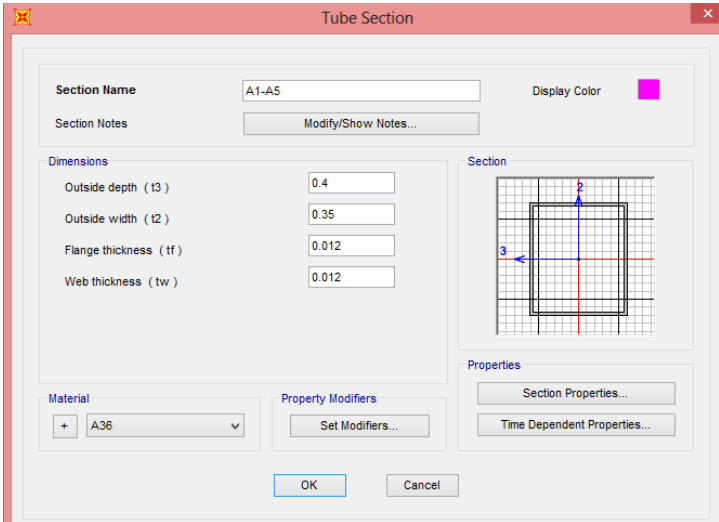


The image shows a software dialog box titled "Material Property Data". It is organized into several sections:

- General Data:** Material Name and Display Color is set to "A36". Material Type is "Steel". There is a "Modify/Show Notes..." button.
- Weight and Mass:** Weight per Unit Volume is 7.85. Mass per Unit Volume is 0.8005. Units are set to "Tonf, m, C".
- Isotropic Property Data:** Modulus of Elasticity, E is 21000000. Poisson, U is 0.3. Coefficient of Thermal Expansion, A is 1.170E-05. Shear Modulus, G is 8076923.
- Other Properties for Steel Materials:** Minimum Yield Stress, Fy is 25310.507. Minimum Tensile Stress, Fu is 40778.04. Expected Yield Stress, Fye is 37965.76. Expected Tensile Stress, Fue is 44855.84.

At the bottom, there is a checkbox for "Switch To Advanced Property Display" (unchecked), and "OK" and "Cancel" buttons.

Gambar 1 *Input material property*

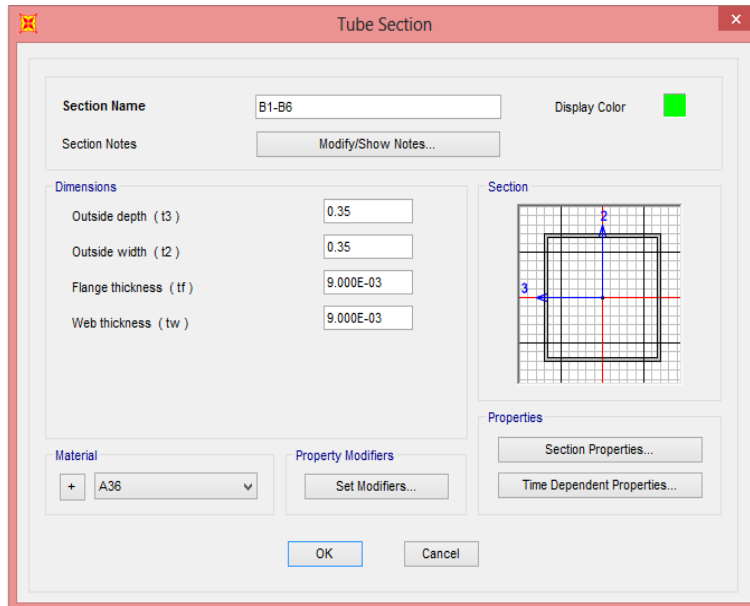


The image shows a software dialog box titled "Tube Section". It contains the following information:

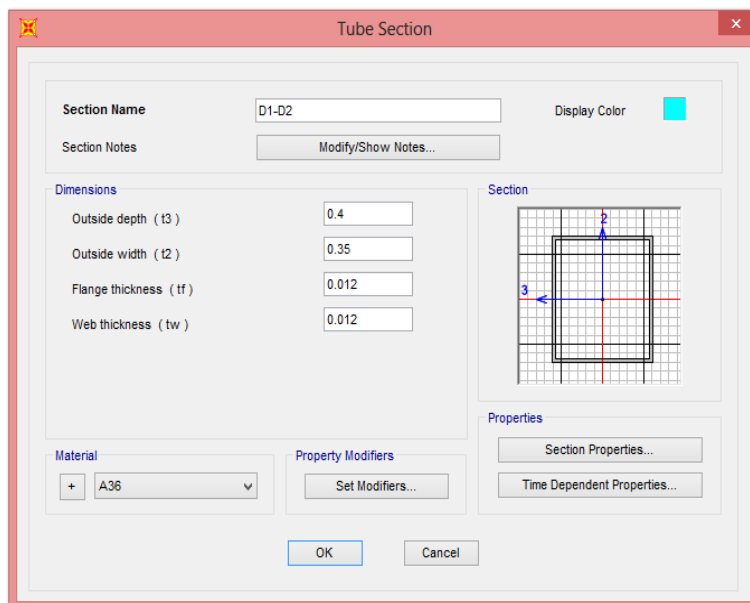
- Section Name:** A1-A5. Display Color is a purple square.
- Section Notes:** "Modify/Show Notes..." button.
- Dimensions:** Outside depth (t3) is 0.4. Outside width (t2) is 0.35. Flange thickness (tf) is 0.012. Web thickness (tw) is 0.012.
- Section:** A 2D grid showing a rectangular tube profile with dimensions t2 and t3 indicated.
- Material:** A36.
- Property Modifiers:** "Set Modifiers..." button.
- Properties:** "Section Properties..." and "Time Dependent Properties..." buttons.

At the bottom, there are "OK" and "Cancel" buttons.

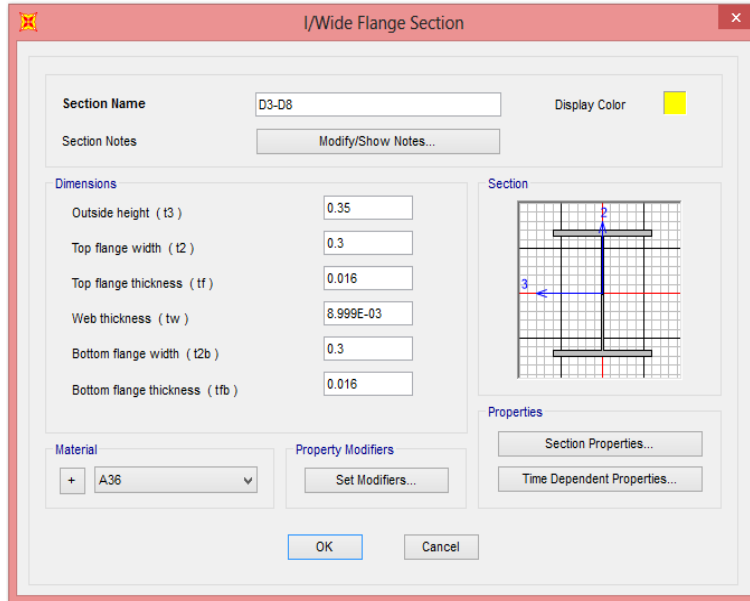
Gambar 2 *Tube section (400.350.12.12 mm)*



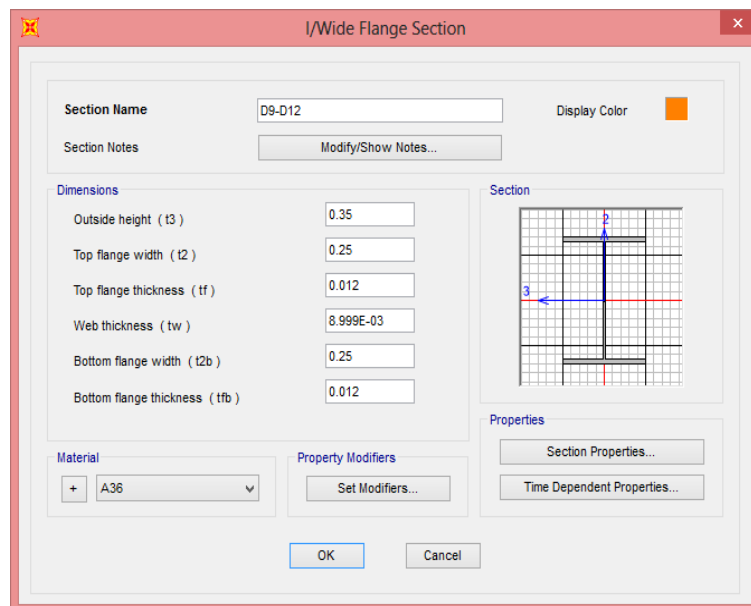
Gambar 3 Tube section (350.350.9.9 mm)



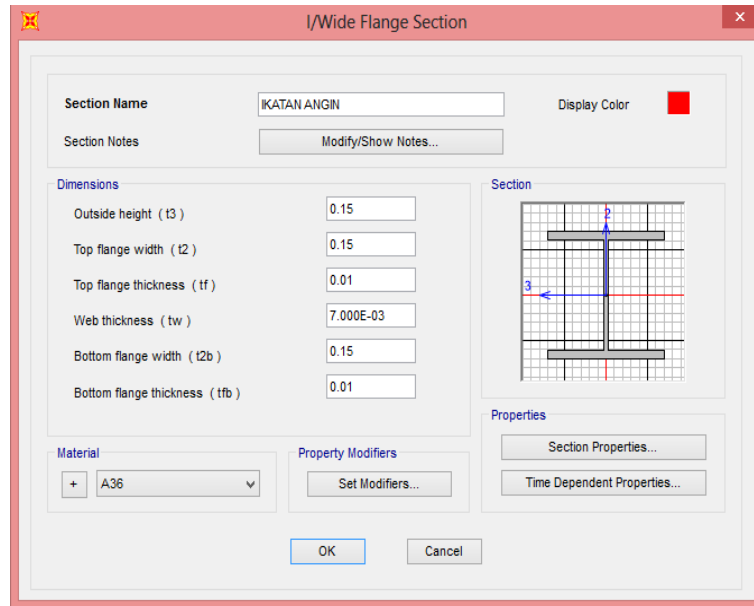
Gambar 4 Tube section (400.350.12.12 mm)



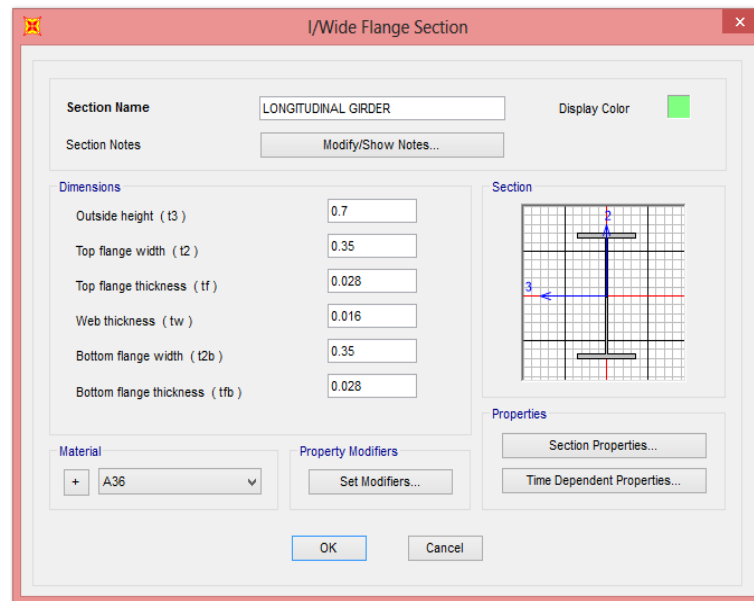
Gambar 5 I/Wide flange section (350.300.9.16 mm)



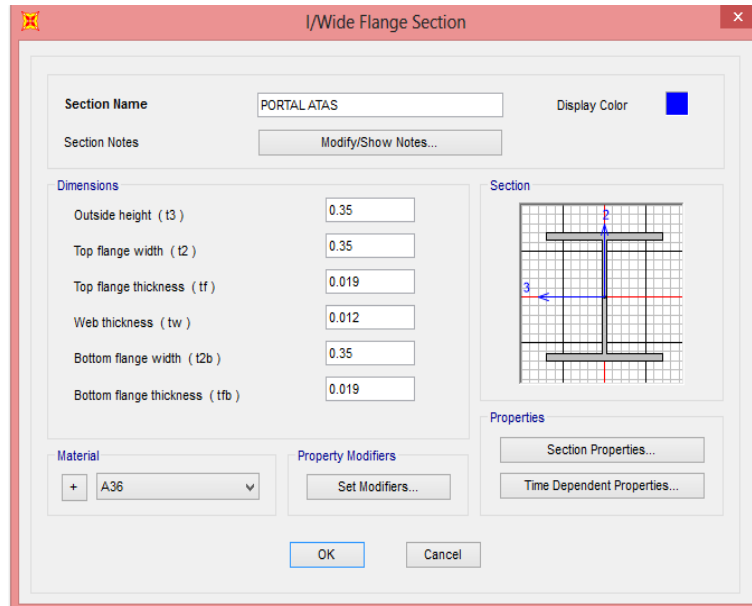
Gambar 6 I/Wide flange section (350.250.9.12 mm)



Gambar 7 I/Wide flange section (150.150.7.10 mm)

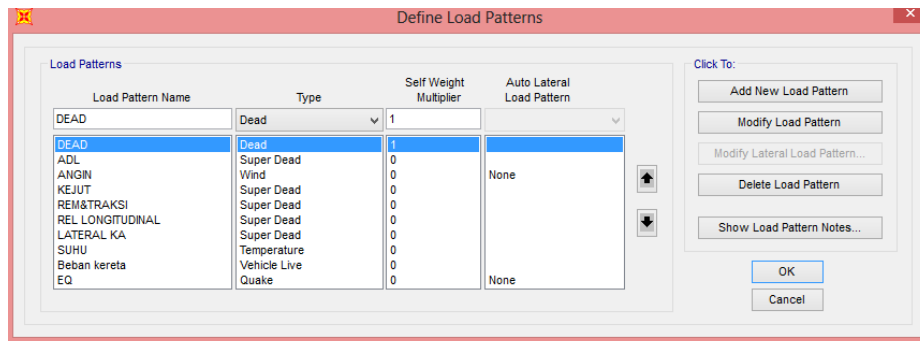


Gambar 8 I/Wide flange section (700.350.16.28 mm)

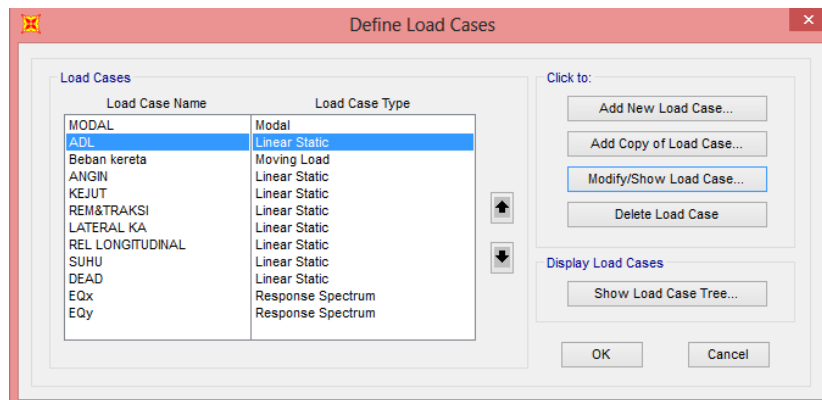


Gambar 9 I/Wide flange section (350.350.12.19 mm)

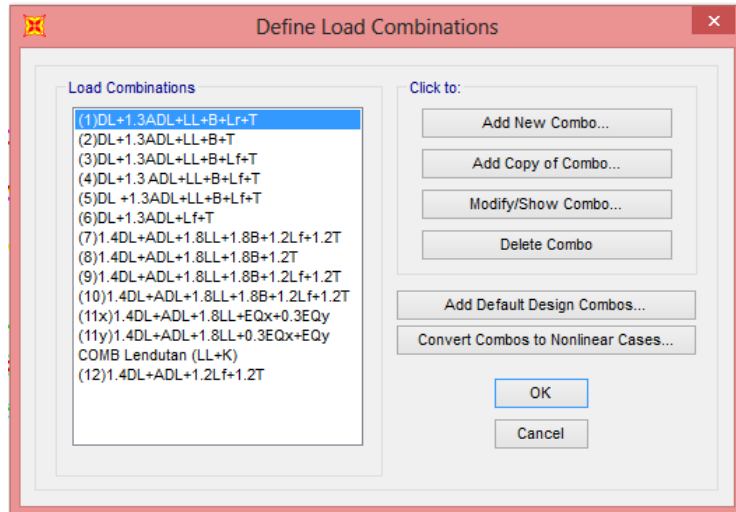
Lampiran 5. Load Patterns, Load Cases dan Load Combinations



Gambar 1 Menetapkan jenis beban

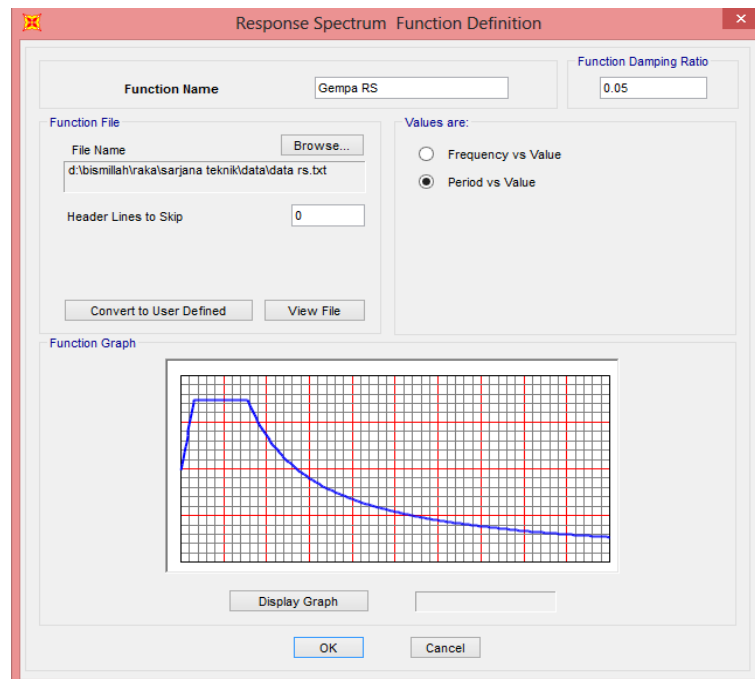


Gambar 2 Menetapkan beban yang terjadi



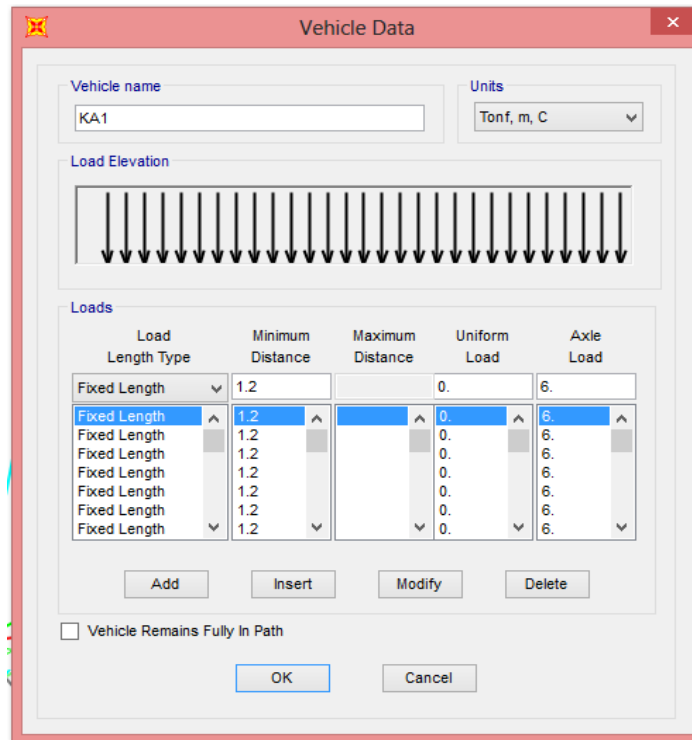
Gambar 3 Menetapkan kombinasi beban

Lampiran 6. Respon Spektrum

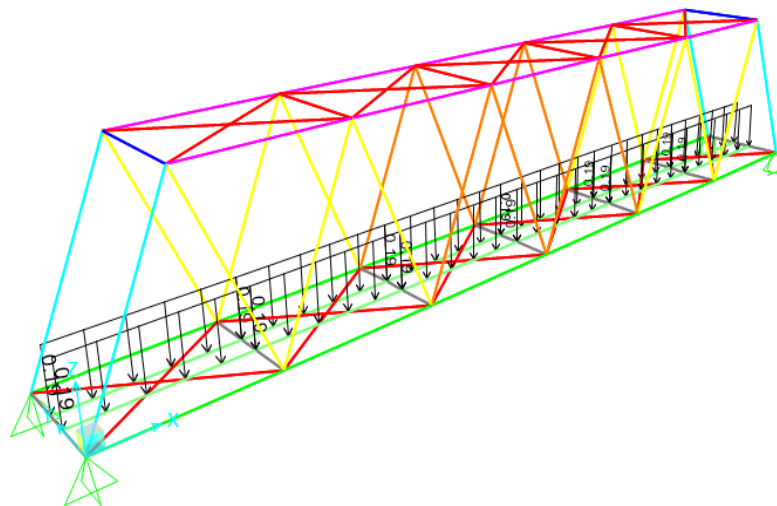


Gambar 1 Menetapkan respon spektrum

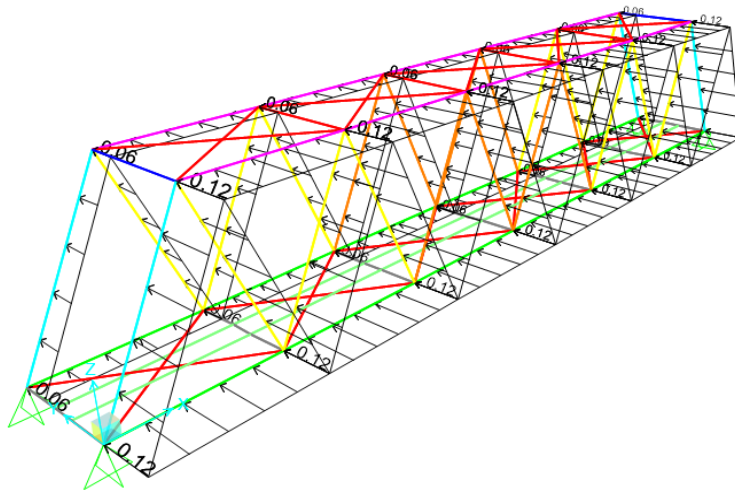
Lampiran 7. Pembebanan Pada Model Struktur Jembatan



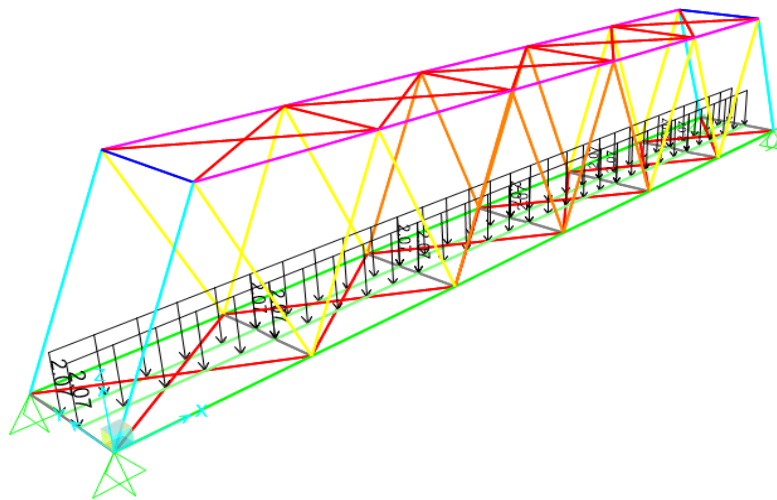
Gambar 1 Menetapkan *moving load*



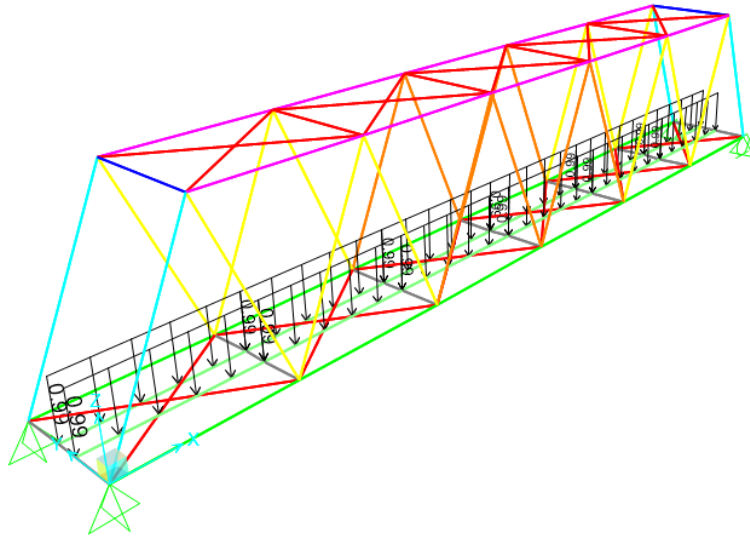
Gambar 2 Beban mati tambahan (ADL)



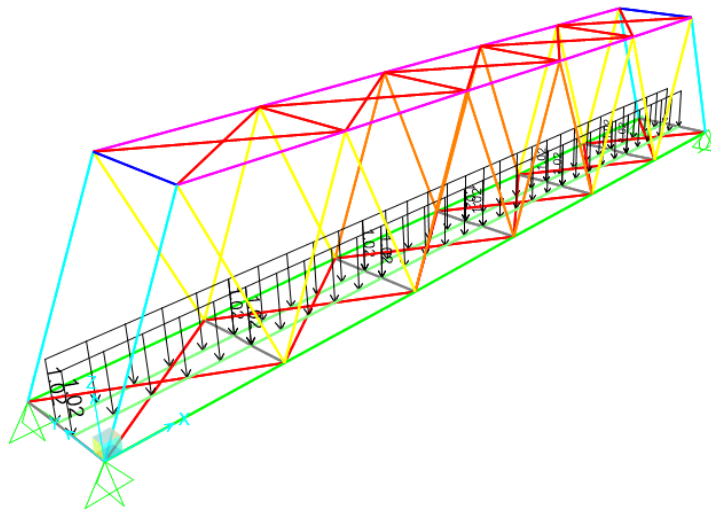
Gambar 3 Beban angin



Gambar 4 Beban kejut

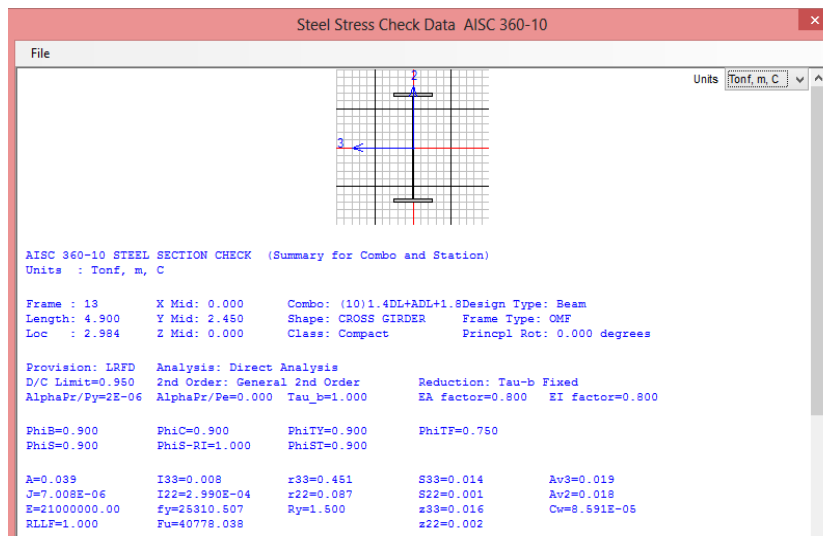


Gambar 5 Beban lateral kereta

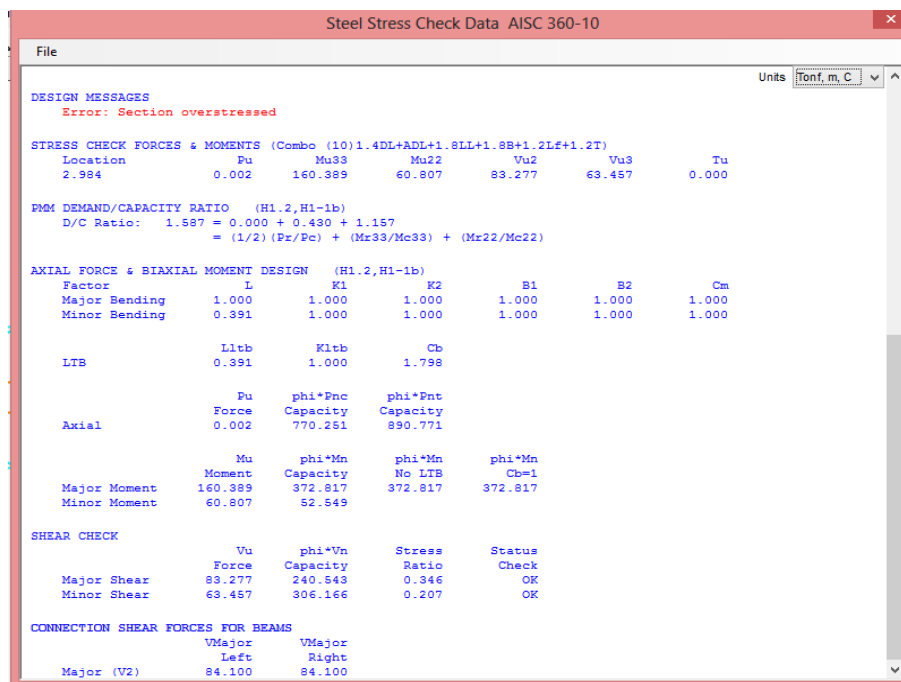


Gambar 6 Beban rel longitudinal

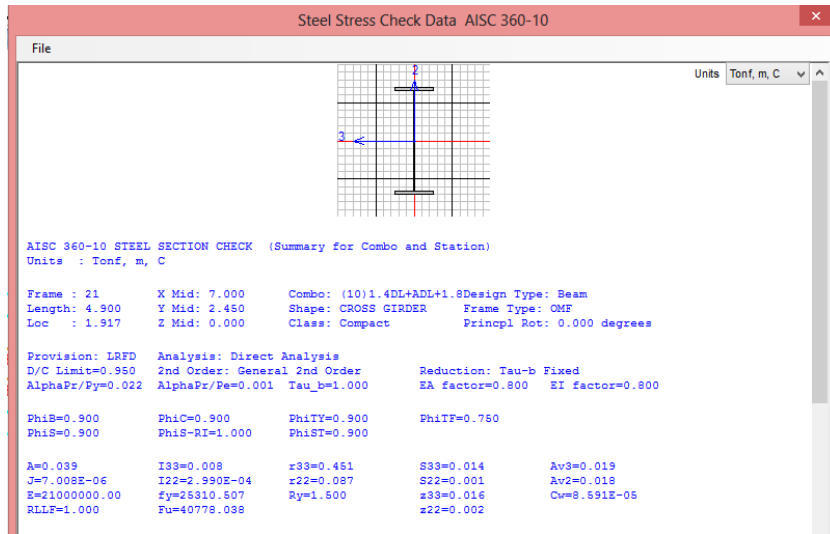
Lampiran 8. Hasil Run Batang/Frame Overstressed



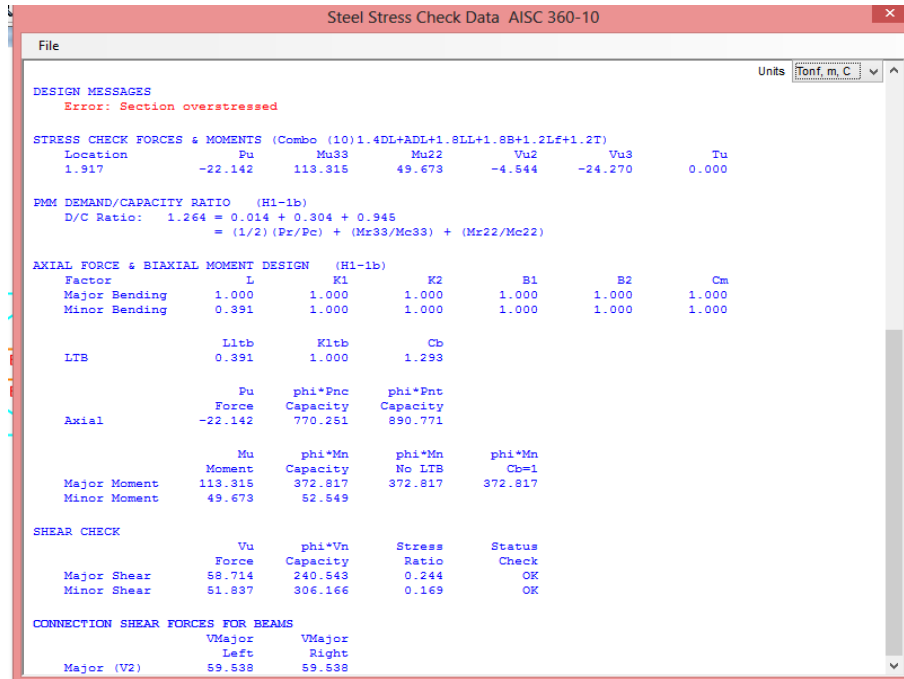
Gambar 1 Batang/frame 1 (IWF1100.400.16.28)



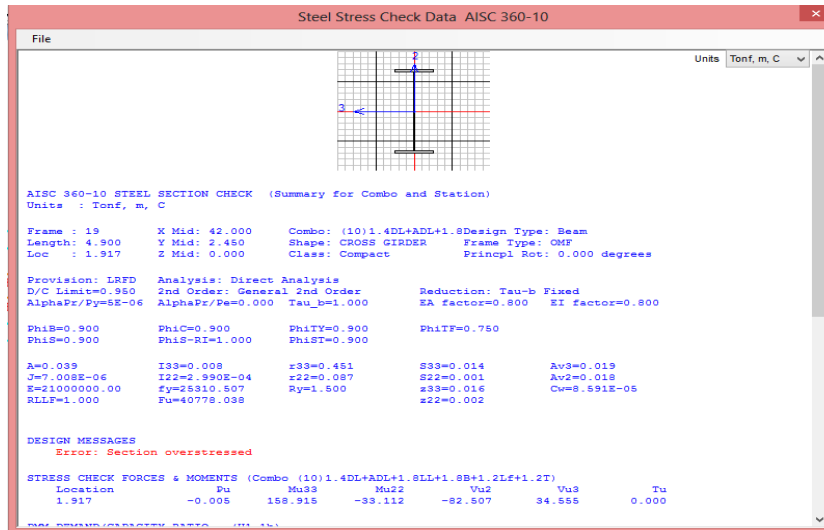
Gambar 1 Lanjutan



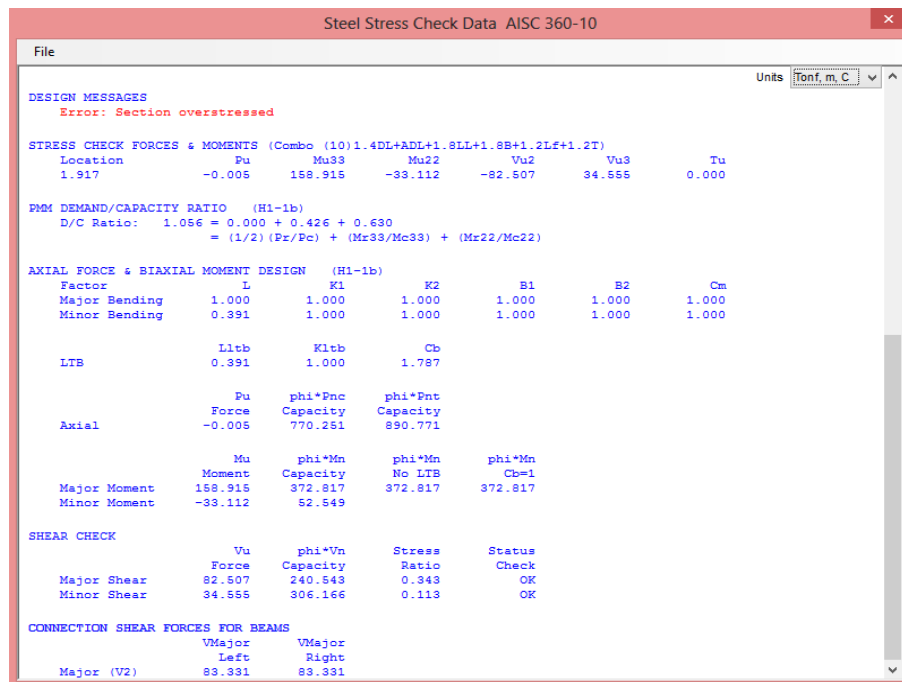
Gambar 2 Batang/frame 2 (IWF1100.400.16.28)



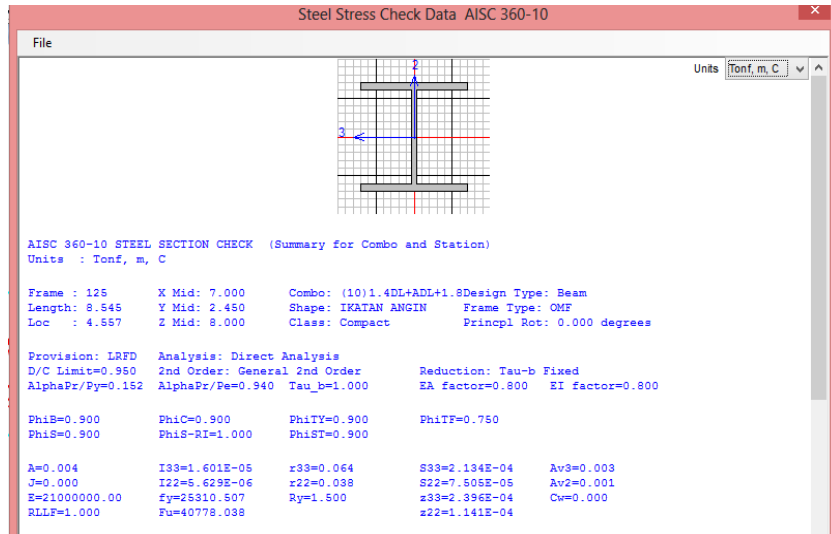
Gambar 2 Lanjutan



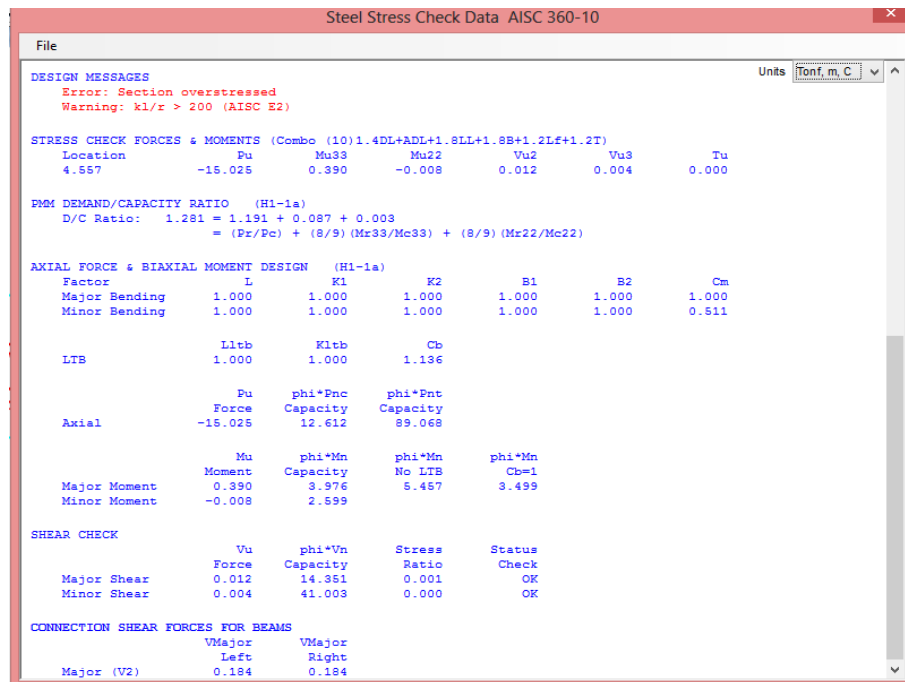
Gambar 3 Batang/frame 7 (IWF1100.400.16.28)



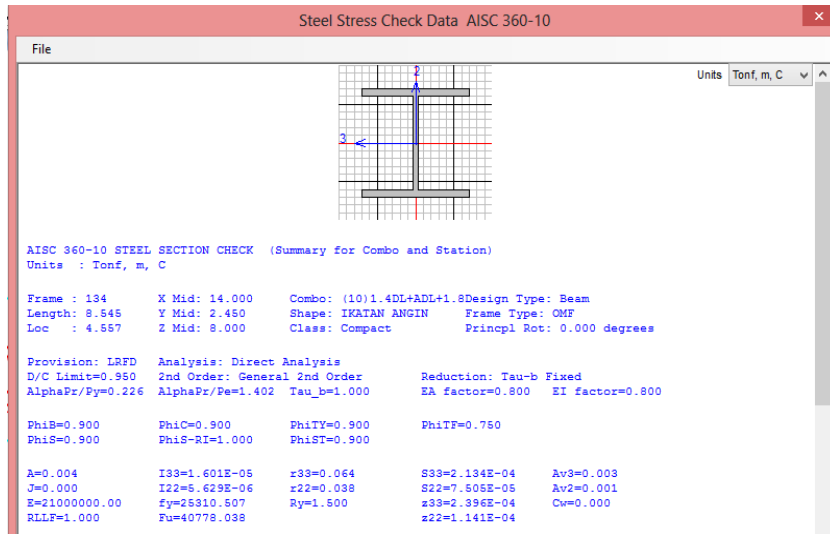
Gambar 3 Lanjutan



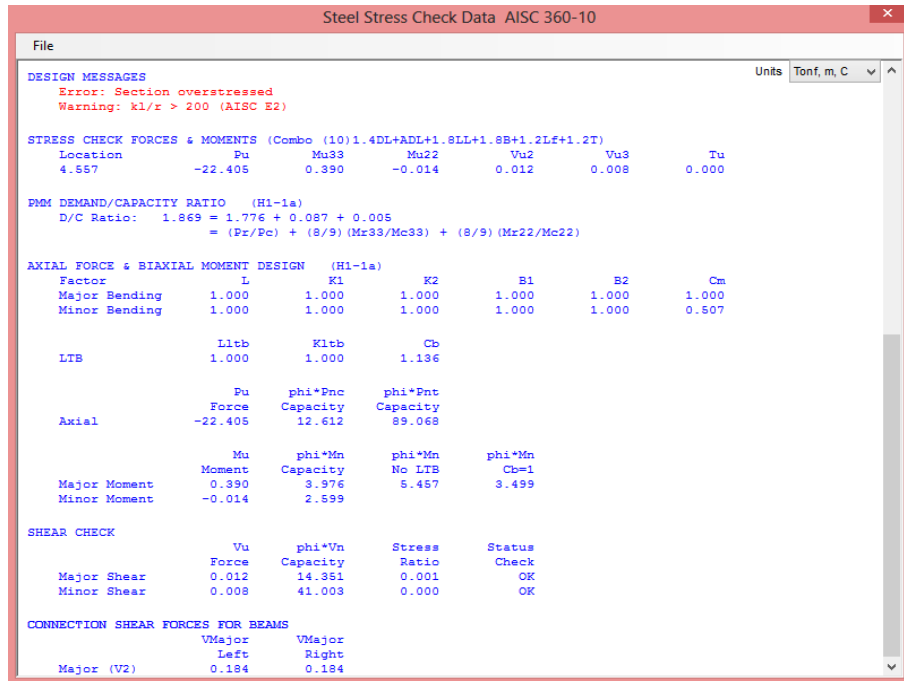
Gambar 4 Batang/frame 13 dan 14 (IWF150.150.7.10)



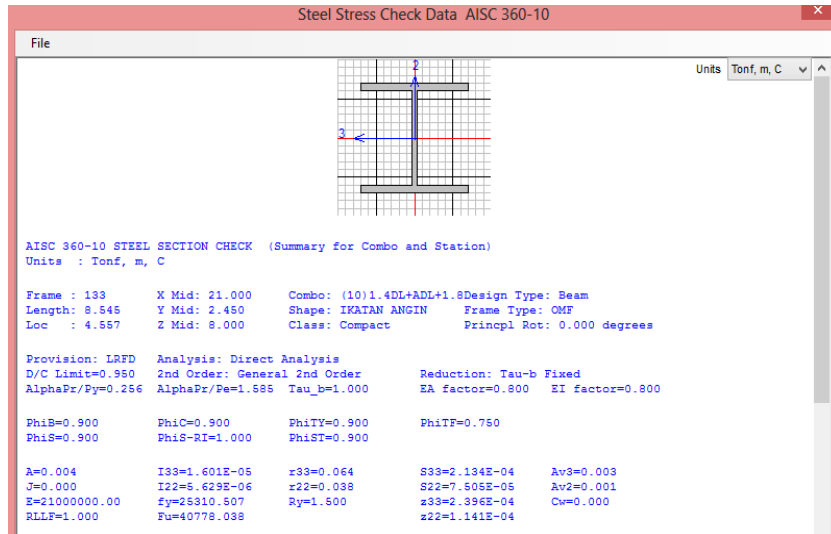
Gambar 4 Lanjutan



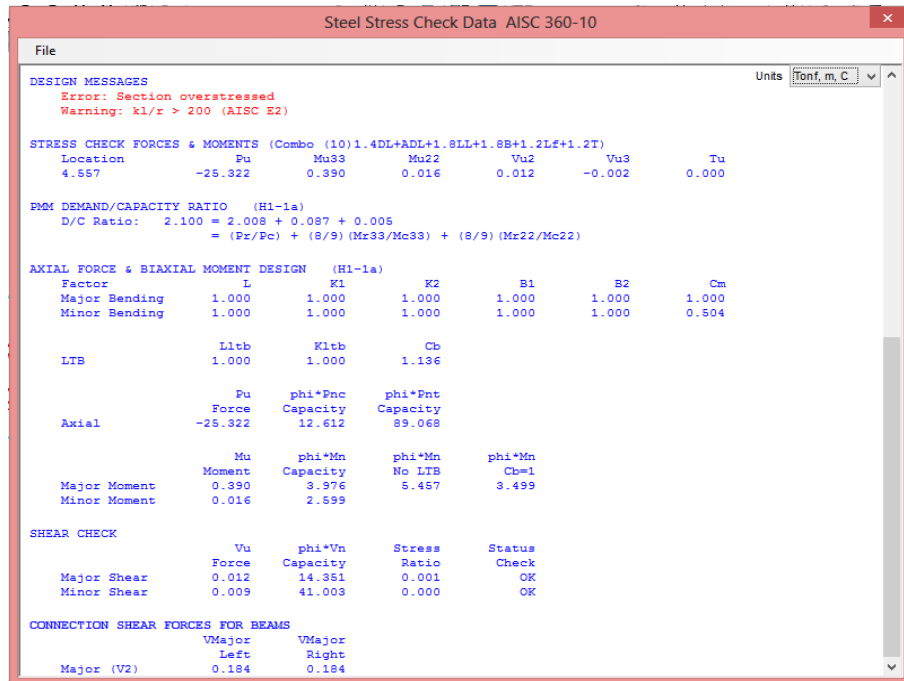
Gambar 5 Batang/frame 15 dan 16 (IWF150.150.7.10)



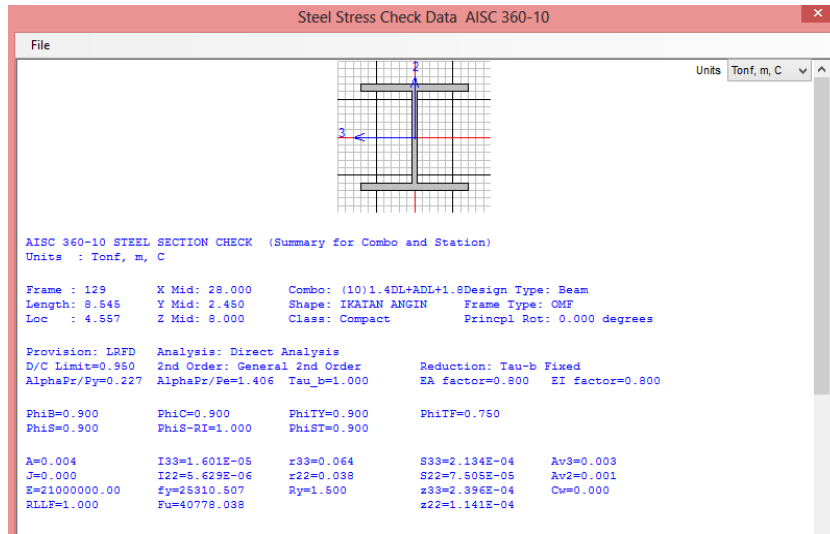
Gambar 5 Lanjutan



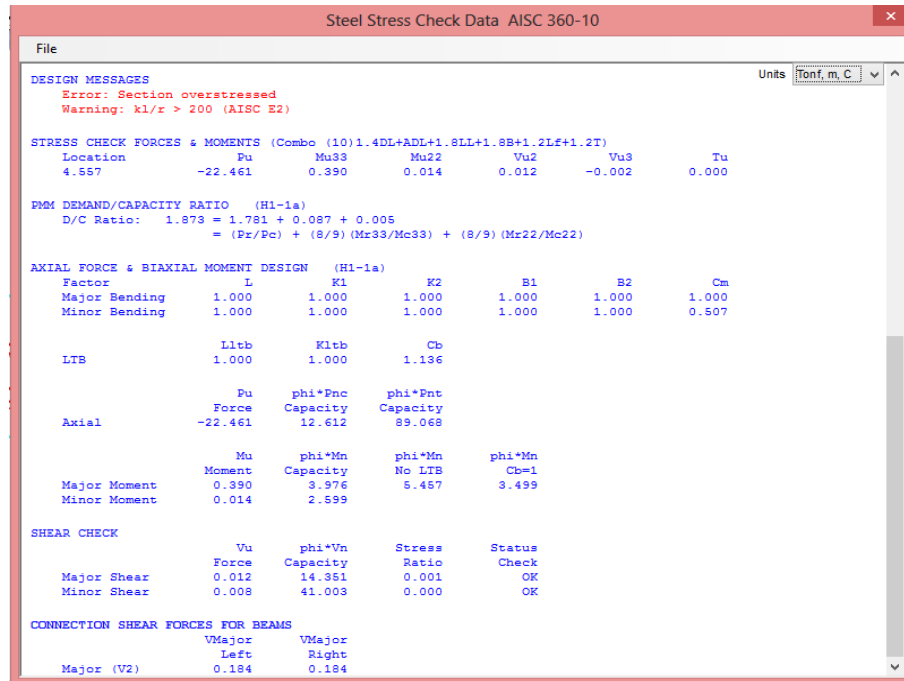
Gambar 6 Batang/frame 17 dan 18 (IWF150.150.7.10)



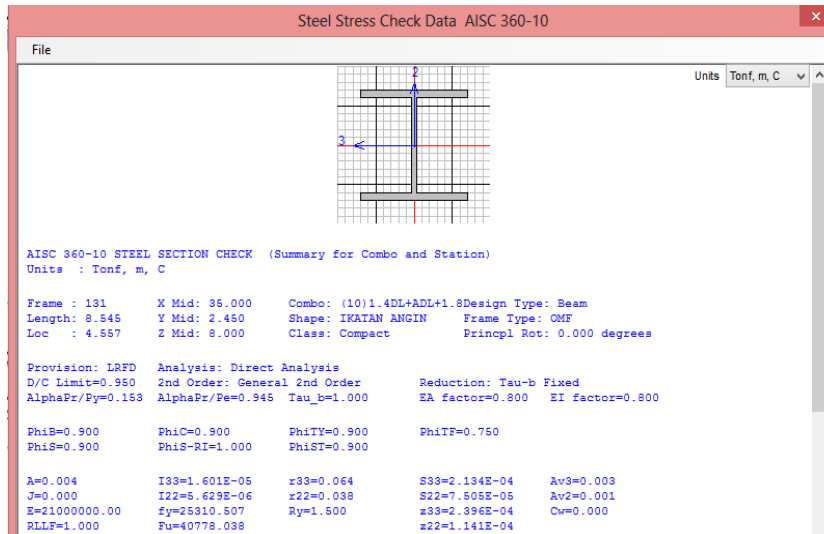
Gambar 6 Lanjutan



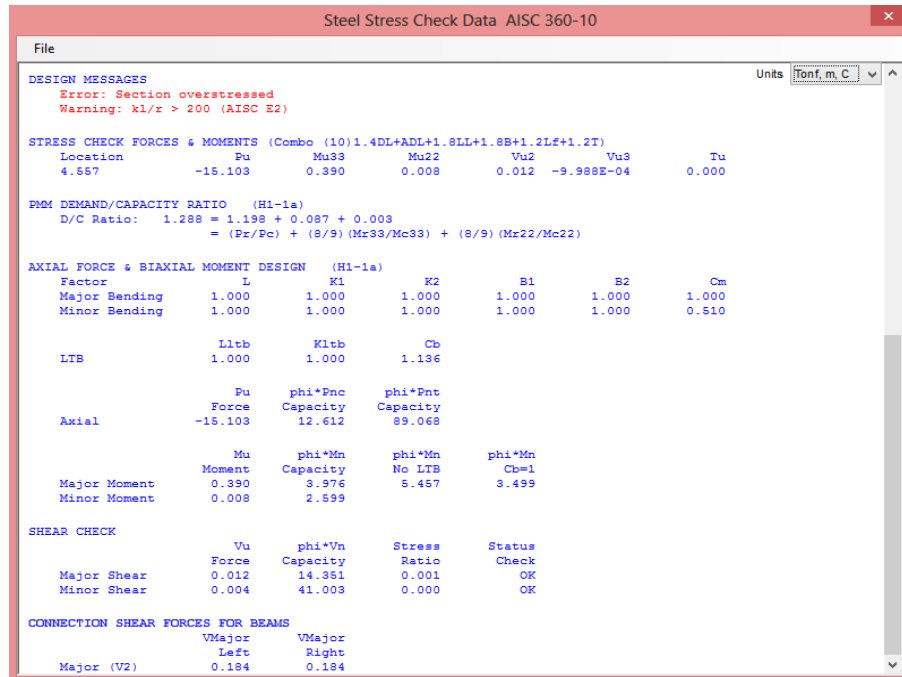
Gambar 7 Batang/frame 19 dan 20 (IWF150.150.7.10)



Gambar 7 Lanjutan



Gambar 8 Batang/frame 21 dan 22 (IWF150.150.7.10)



Gambar 8 Lanjutan