E T A B S / S T E E L E R

Steel Frame Stress Check Processor for ETABS

Version 6.1

18 Oct 2011 21:46:09

FILE : CHKSTL SAMPLE EXAMPLE FOR STEELER MANUAL
SPECIAL MOMENT RESISTING STEEL FRAME UNITS : TON-METER-SECOND

CODE CHECK IDENTIFIER	1 (UBC 1994 STEEL)
NUMBER OF FRAMES TO BE CHECKED	1
NUMBER OF STRESS CHECK LOAD COMBINATIONS	5
ETABS LIVE LOAD CONDITION NUMBER	2
NUMBER OF REPLACED MATERIAL PROPERTIES	0
NUMBER OF REPLACED COLUMN PROPERTIES	0
NUMBER OF REPLACED BEAM PROPERTIES	0
NUMBER OF REPLACED BRACE PROPERTIES	0
TYPE OF UNITS (ENGLISH, MKS OR SI)	M
EXECUTION MODE	0
INTERACTION STRESS RATIO CUTOFF	0.0000
SHEAR STRESS RATIO CUTOFF	0.0000
COLUMN INTERACTION DETAIL FLAG	1
BEAM INTERACTION DETAIL FLAG	1
BRACE INTERACTION DETAIL FLAG	1
COLUMN SHEAR STRESS CHECK FLAG	1
BEAM SHEAR STRESS CHECK FLAG	1
BRACE SHEAR STRESS CHECK FLAG	1
MAP OF COLUMN INTERACTION STRESS RATIOS FLAG	1
MAP OF BEAM INTERACTION STRESS RATIOS FLAG	1
MAP OF COLUMN CONTINUITY PLATES FLAG	1
MAP OF COLUMN DOUBLER PLATES FLAG	1

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DESIGN LOADING COMBINATION DATA

LOAD	TYPE	I	II	III	A	B	C	D1	D2
1.	0	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0	0.750	0.750	0.750	0.000	0.000	0.000	0.000	0.000
3	0	0.750	0.750	-0.750	0.000	0.000	0.000	0.000	0.000
4	0	0.750	-0.750	0.750	0.000	0.000	0.000	0.000	0.000
5	0	0.750	-0.750	-0.750	0.000	0.000	0.000	0.000	0.000

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MATERIAL PROPERTIES

ID	TYPE	ELASTIC MODULUS {Kg/sqm}	POISSONS RATIO	UNIT WEIGHT {Kg/cum}	UNIT MASS	COEFF OF EXPANSION
1	C	0.2174E+10	0.1500	0.2400E+04	0.2450E+03	0.0000E+00
2	S	0.7000E+10	0.3000	0.7850E+04	0.8010E+03	0.0000E+00

MATERIAL PROPERTIES FOR DESIGN

ID	TYPE	YIELD STRENGTH FY {Kg/sqm}	STRENGTH FC(FM) {Kg/sqm}	YIELD STRENGTH FYS {Kg/sqm}	STRENGTH FCS(FMS) {Kg/sqm}	ALLOWABLES FBMAJ {Kg/sqm}	FBMIN {Kg/sqm}
1	C	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
2	S	0.113E+08				0.000E+00	0.000E+00

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SECTION PROPERTIES FOR COLUMNS

ID	SECTION TYPE	MAT ID	MAJOR DIM {mm}	MINOR DIM {mm}	FLANGE THICK {mm}	WEB THICK {mm}
1	BOX	2	100.000	40.000	3.200	3.200

ANALYSIS SECTION PROPERTIES FOR COLUMNS

ID	AXIAL A {mm_2}	MAJOR AV {mm_2}	MINOR AV {mm_2}	TORSION J {1e3mm_4}	MAJOR I {1e6mm_4}	MINOR I {1e6mm_4}
1	855.040	640.000	256.000	0.6079E+03	0.1037E+01	0.2375E+00

STRESS CHECK SECTION PROPERTIES FOR COLUMNS

ID	MAJOR S {1e3mm_3}	MINOR S {1e3mm_3}	MAJOR Z {1e3mm_3}	MINOR Z {1e3mm_3}	MAJOR R {mm}	MINOR R {mm}
1	20.745	11.873	26.408	13.582	34.830	16.665

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SPECIAL MOMENT RESISTING STEEL FRAME UNITS : TON-METER-SECOND

SECTION PROPERTIES FOR BEAMS

ID	SECTION TYPE	MAT ID	DEPTH BELOW {mm}	DEPTH ABOVE {mm}	BEAM WIDTH {mm}	FLANGE THICK {mm}	WEB THICK {mm}
1	BOX	2	100.000	0.000	40.000	3.200	3.200

ANALYSIS SECTION PROPERTIES FOR BEAMS

ID	AXIAL A {mm_2}	MAJOR AV {mm_2}	MINOR AV {mm_2}	TORSION J {1e3mm_4}	MAJOR I {1e6mm_4}	MINOR I {1e6mm_4}
1	855.040	640.000	256.000	0.6079E+03	0.1037E+01	0.2375E+00

STRESS CHECK SECTION PROPERTIES FOR BEAMS

ID	MAJOR S {1e3mm_3}	MINOR S {1e3mm_3}	MAJOR Z {1e3mm_3}	MINOR Z {1e3mm_3}	MAJOR R {mm}	MINOR R {mm}
1	20.745	11.873	26.408	13.582	34.830	16.665

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SPECIAL MOMENT RESISTING STEEL FRAME UNITS : TON-METER-SECOND

FRAME NUMBER---------- 1
FRAMING TYPE---------- 1 (ORDINARY MOMENT)
COLUMN PROPERTY REPLACEMENT CODE---------- 0
BEAM PROPERTY REPLACEMENT CODE---------- 0
BRACE PROPERTY REPLACEMENT CODE---------- 0
UBC STRUCTURE TYPE FACTOR, RW---------- 6
FRAME ID NUMBER---------- 1
NUMBER OF COLUMN LINES---------- 4
NUMBER OF BEAM BAYS---------- 3
NUMBER OF FLOOR BAYS---------- 0
NUMBER OF JOINT LOAD PATTERNS---------- 2
NUMBER OF BEAM SPAN LOAD PATTERNS---------- 1
NUMBER OF FLOOR SURFACE LOAD PATTERNS------ 0

MAXIMUM NUMBER OF BRACE ELEMENTS---------- 0
MAXIMUM NUMBER OF PANEL ELEMENTS---------- 0
MAXIMUM NUMBER OF LINK ELEMENTS---------- 0
MAXIMUM NUMBER OF LOADS PER BEAM SPAN------ 4

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SPECIAL MOMENT RESISTING STEEL FRAME UNITS : TON-METER-SECOND
FRAME ID .... << MAIN FRAME >>
LEVEL ID .... RF
UNIFORM BUILDING CODE 1994 (CHAPTER 22)
COLUMN AXIAL FORCE AND BIAXIAL MOMENT INTERACTION STRESS CHECK

COL ID	SECTION TYPE	CHECK TYPE	STRESS RATIO	STRESS POINT	<LC>	AISC/UBC EQUATION	MAXIMUM AXIAL {T}	CONT-PL AREA {sqmm}	DBLR-PL THICK {mm}	SECTION TYPE
1	BOX							N/C	N/C	COMPACT
		(C)	0.393	BOTTOM	< 5>	H1-3	0.1			
2	BOX							N/C	N/C	COMPACT
		(C)	0.407	BOTTOM	< 5>	H1-3	0.2			
3	BOX							N/C	N/C	COMPACT
		(C)	0.405	BOTTOM	< 3>	H1-3	0.2			
4	BOX							N/C	N/C	COMPACT
		(C)	0.388	BOTTOM	< 3>	H1-3	0.1			

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FRAME ID .... << MAIN FRAME >>
LEVEL ID .... RF
UNIFORM BUILDING CODE 1994 (CHAPTER 22)

BEAM AXIAL FORCE AND BIAXIAL MOMENT INTERACTION STRESS CHECK

BEAM ID	SECTION TYPE	CHECK TYPE	STRESS RATIO	STRESS POINT	<LC>	AISC/UBC EQUATION	MAXIMUM AXIAL	CON-SHR END-I	CON-SHR END-J	SECTION TYPE

				{T}	{T}	{T}	
1	BOX				0.1	0.1	COMPACT
		(T)	0.213 1/2-PT < 1> BENDING	0.0			
2	BOX				0.1	0.1	COMPACT
		(T)	0.261 1/2-PT < 1> BENDING	0.0			
3	BOX				0.1	0.1	COMPACT
		(T)	0.151 1/2-PT < 1> BENDING	0.0			