

KNOW STAAD

STRUCTURAL ANALYSIS AND DESIGN SOFTWARE

The screenshot displays the STAAD.Pro V8i (SELECTSeries 1) - MODEL software interface. The main window shows a 3D wireframe model of a structure. A 'STAAD Analysis and Design' dialog box is open, displaying the following log:

```

++ Read/Check Data in Load Cases ... 17:38:10
--> Use Out-of-Core Basic Solver
++ Processing and setting up Load Vector. 17:38:10
++ Processing Element Stiffness Matrix. 17:38:10
++ Processing Global Stiffness Matrix. 17:38:10
++ Finished Processing Global Stiffness Matrix. 20 ms
++ Processing Triangular Factorization. 17:38:10
++ Finished Triangular Factorization. 20 ms
++ Calculating Joint Displacements. 17:38:10
++ Finished Joint Displacement Calculation. 40 ms
++ Calculating Member Forces. 17:38:10
++ Analysis Successfully Completed ++
++ Performing Concrete Design 17:38:10
++ Creating Displacement File (DSP)... 17:38:12
++ Creating Reaction File (REA)... 17:38:12
++ Calculating Section Forces 17:38:12
++ Creating Section Force File (BKD)... 17:38:13
++ Creating Section Displace File (SCR)... 17:38:14
++ Creating Design information File (DGR)... 17:38:14
++ Done.
0 Error(s). 1 Warning(s)
** End STAAD Pro Run Elapsed Time = 5 Secs
** Output Written to File:
MODEL.out
  
```

Below the log, there are options: View Output File (ERROR in Analysis. Check Output(LANL) File), Go to Post Processing Mode, and Stay in Modeling Mode. A 'Done' button is at the bottom right of the dialog.

The 'JOB Info' panel on the right contains fields for Job, Clerk, Job No., Rev., Part, and Ref. It also has a 'File' section with fields for Filename (MODEL.std), Directory (C:\AD\Documents and Settings\user\My Documents), Date/Time (20-Jun-2011 02:58 PM), and File size (48935). There are also fields for Engineer (Name: KR), Checker, and Approved, along with a Date field (20 JUN-11) and a Comment box. A 'Help' button is at the bottom.

The status bar at the bottom indicates 'Modeling/Mode' and 'Input Units: N-mm'.



WORKING WITH STAAD-TOOLS

INPUT FILE PREPARATION

STAAD-GUI

- FOR AUTOMATIC GENERATION OF INPUT FILE

STAAD EDITOR

- FOR MANUAL EDITING OF INPUT FILE

PROCESSING INPUT

RUN ANALYSIS

- GENERATES OUTPUT FILE FOR STAAD OutputViewer
- GENERATES REPORT/DISPLAY FILE FOR STAAD Postprocessing
- GENERATES OUTPUT FILE FOR OPENSTAAD

POSTPROCESSING OUTPUT

STAAD Outputviewer

- FOR VIEWING RESULTS AFTER INPUT PROCESSING

STAAD Postprocessing

- FOR DISPLAYING RESULTS AND REPORTS

OPENSTAAD

- FOR CUSTOMIZING RESULT FILES USING EXCEL



INPUT FILE (*.STD) OF STAADPRO

STAAD SPACE FRAME WITH CONCRETE DESIGN

UNIT METER KNS

JOINT COORDINATE

1 0 0 0; 2 3.5 0 0; 3 7.5 0. 0
4 0 0 5; 5 3.5 0 5; 6 7.5 0 5
7 0 3 0; 8 3.5 3 0; 9 7.5 3 0
10 0 3 5; 11 3.5 3 5; 12 7.5 3 5
13 3.5 6 0; 14 7.5 6 0
15 3.5 6 5; 16 7.5 6 5

MEMBER INCIDENCE

1 1 7; 2 4 10; 3 2 8; 4 8 13
5 5 11; 6 11 15; 7 3 9 ; 8 9 14
9 6 12; 10 12 16; 11 7 8 12
13 10 11 14; 15 13 14; 16 15 16
17 7 10; 18 8 11; 19 9 12
20 13 15; 21 14 16



UNIT MMS

MEMBER PROPERTIES

1 2 PRISMATIC YD 250

3 TO 10 PRISMATIC YD 400 ZD 350

11 TO 21 PRISMATIC YD 350 ZD 250

UNIT NEW MMS

CONSTANT

E 25491.175

POI 0.15

DEN 0.000025

SUPPORT

1 TO 6 FIXED

UNIT KNS MET

LOAD 1 DL 200MM THICK SLAB

SELFWEIGHT Y -1.0

MEMBER LOAD

11 13 LIN Y 0.0 0.0 -8.75



```
12 14 15 16 LIN Y 0.0 0.0 -10.0
17 18 TRAP Y 0.0 -8.75 0.0 1.75
17 18 TRAP Y -8.75 0.0 3.25 5.0
17 18 TRAP Y -8.75 -8.75 1.75 3.25
18 19 20 21 TRAP Y 0.0 -10.0 0.0 2.0
18 19 20 21 TRAP Y -10.0 0.0 3.0 5.0
18 19 20 21 TRAP Y -10.0 -10.0 2.0 3.0
```

LOAD 2 LL 2KN/SQM

MEMBER LOAD

```
11 13 LIN Y 0.0 0.0 -3.5
12 14 15 16 LIN Y 0.0 0.0 -4.0
17 18 TRAP Y 0.0 -3.5 0.0 1.75
17 18 TRAP Y -3.5 0.0 3.25 5.0
17 18 TRAP Y -3.5 -8.75 1.75 3.25
18 19 20 21 TRAP Y 0.0 -4.0 0.0 2.0
18 19 20 21 TRAP Y -4.0 0.0 3.0 5.0
18 19 20 21 TRAP Y -4.0 -4.0 2.0 3.0
```



LOAD 3 WL 10KN/SQM

JOINT LOAD

15 16 FZ -30.

11 FZ -86.25

10 FZ -26.25

12 FZ -60.

LOAD COMBINATION 4 1.5DL+1.5LL

1 1.5 2 1.5

LOAD COMBINATION 5 1.2DL+1.2LL+1.2WL

1 1.2 2 1.2 3 1.2

LOAD COMBINATION 6 1.2DL+1.2LL-1.2WL

1 1.2 2 1.2 3 -1.2

PERFORM ANALYSIS

LOAD LIST 4 TO 6

PRINT FORCES LIST 3 7 18 12 11



START CONC DESIGN

CODE INDIA

UNIT NEW MM

FYMAIN 415

FC 20

MINMAIN 10

MAXMAIN 16

CLEAR 30 MEMB 11 12 18

TRACK 1.0 MEMB 12

TRACK 2.0 MEMB 18

DESIGN BEAM 11 12 18

TRACK 1.0 MEMB 1 3

DESIGN COLUMN 1 3

END CONC DESIGN

FINISH

