



# *STRUCTURAL ENGINEERING DESIGNER*

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*VERSION 1.6*

**Welcome to a Demonstration of the Features and Functions of the Structural Engineering Designer Application. Please Note That There Are Many Program Capabilities And Functions That Are Not Shown Here.**

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Styx Systems, Inc*



# THE ESSENTIAL TOOL

STRUCTURAL ENGINEERING DESIGNER

## **Welcome to the Structural Engineering Designer (SED) Software Application.**

- SED is the Essential Tool for Designers, Engineers, Students and Craftsmen.
- With SED, You Can Determine the Proper Size, Shape and Material to Use for Any Load in Any Application.
- SED Displays Every Relevant Aspect of the Design Process, While Performing It's Calculations with Absolute Precision and Repeatability.
- The Application Will, Upon Request, Display the Equations Used in its Calculation Process, Something No Other Design Tool Does.
- By Displaying It's Equations, SED is the Ideal Tool for Those Who Must "Show Their Work".
- SED is Based Upon Both Accepted Engineering Practices and Standard Shape Dimensions.
- SED's Database Has Profiles of Every Standard Rolled and Milled Shape as Well as a User-definable Library of Custom Shapes and is Limited Only by the Amount of Disk Storage a User Has at Hand, and Can Expand and Contract as the User Decides.



## ***WHAT IS SED?***

*STRUCTURAL ENGINEERING DESIGNER*

**Structural Engineering Designer (SED) is a software application that calculates stress and deflection values (among many other values) for many different combinations of shapes, materials and loads under different support and load placement cases. SED is data-driven... meaning that SED's calculations are based upon standard catalogued physical properties of both shapes and materials. This catalog or database contains all the attributes needed to compute the critical design factors needed by design engineers, regardless of their engineering discipline. SED provides engineering practitioners the means to design elements or structures using generally accepted engineering practices and standard physical properties under code-driven loads in practical design environments.**

**The SED user describes real-world conditions, and SED provides real-world answers!**



# SED HAS MANY USES...

STRUCTURAL ENGINEERING DESIGNER

## SED Can Be Used in Many Disciplines. For Example, SED Can Help:

- a Civil Engineer Design the Load Carrying Members of a Temporary Bridge
- an Architect Specify the Most Cost-effective LVL Beams to Be Used in a Home-remodeling Project
- a Mechanical Engineer in the Design of a Miniature Mechanism
- a Contractor Determine the Proper Shapes, Sizes and Materials to Use When Constructing a Manufacturing Facility
- a Civil Engineering Student Determine Classroom Solutions to Complex Strength and Load Reaction Factor Design Problems Using Both the ASD and LRFD Models
- a Builder in the Selection and Use of the Most Economical Materials That Will Satisfy Local Building Codes in a Construction Project
- a Bridge Designer Construct Very Large Concrete Shapes for More Esthetic Bridge Designs.



# SED SYSTEM REQUIREMENTS

STRUCTURAL ENGINEERING DESIGNER

- **SED Requires the Following Hardware and Software to Operate Correctly:**
  - An IBM or IBM-compatible Microcomputer With:
    - One or More Intel Pentium III or Pentium IV Processors
    - At Least 256Mbytes of Random Access Memory (RAM)
    - At Least 700Mbytes of Available Hard Disk Storage (More for Large Amounts of Custom Shapes)
    - At Least a VGA Monitor Set to 800 X 600 Resolution
    - At Least a VGA Adapter Set to 32 Bit (True Color) Color Depth
    - A CD-ROM Reader
  - Microsoft Windows 98SE/2000/2000 Pro/XP Home/XP Pro
  - Microsoft Excel 97 SR-2, Excel 2000 or Other Spreadsheet Program (to Take Advantage of SED's Export Capability)
  - The SED Distribution CD-ROM
  - After 10 days, the SED Product License (Unlock) Code



# SED CAPACITIES

STRUCTURAL ENGINEERING DESIGNER

- SED Has an Integral Database with the Following Shapes, Materials, Cases and Loads:

<i>Rolled Shapes</i>	<i>1700+ different</i>
<i>Milled Shapes</i>	<i>51 different</i>
<i>Custom Shapes</i>	<i>42 types, unlimited of each</i>
<i>Plate Shapes</i>	<i>11 different</i>
<i>Support and Load Cases</i>	<i>22 different</i>
<i>Metals (ferrous and non-ferrous)</i>	<i>99 different</i>
<i>Woods</i>	<i>38 different</i>
<i>Plastics</i>	<i>42 different</i>
<i>Concrete</i>	<i>4 different</i>
<i>Plywood</i>	<i>28 different</i>
<i>Glass</i>	<i>6 different</i>
<i>Load Types</i>	<i>12 different</i>



# SED "HOME"

## STRUCTURAL ENGINEERING DESIGNER

- This Is the Main Screen. All Program Activity Is Controlled Here. Analysis Progress is Mapped Here Along With Intermediate Analysis Results.

**2 Structural Engineering Designer - version 1.6.550**

Project Member Shape Material Case Load Environment Calculate Help

GJD - 1416

Project Selected

Member Selected

Shape Selected

Material Selected

Case Selected

Load Defined

Use Certified

Occupancy Certified

Calculation Performed

Details

No Project Selected

No Member Selected

No Shape Selected

No Material Selected No Material Selected

No Case Selected

No Use Certified

No Occupancy Certified

No Calculations Performed

PRINT RESET QUIT

Today's Date 2/14/2003

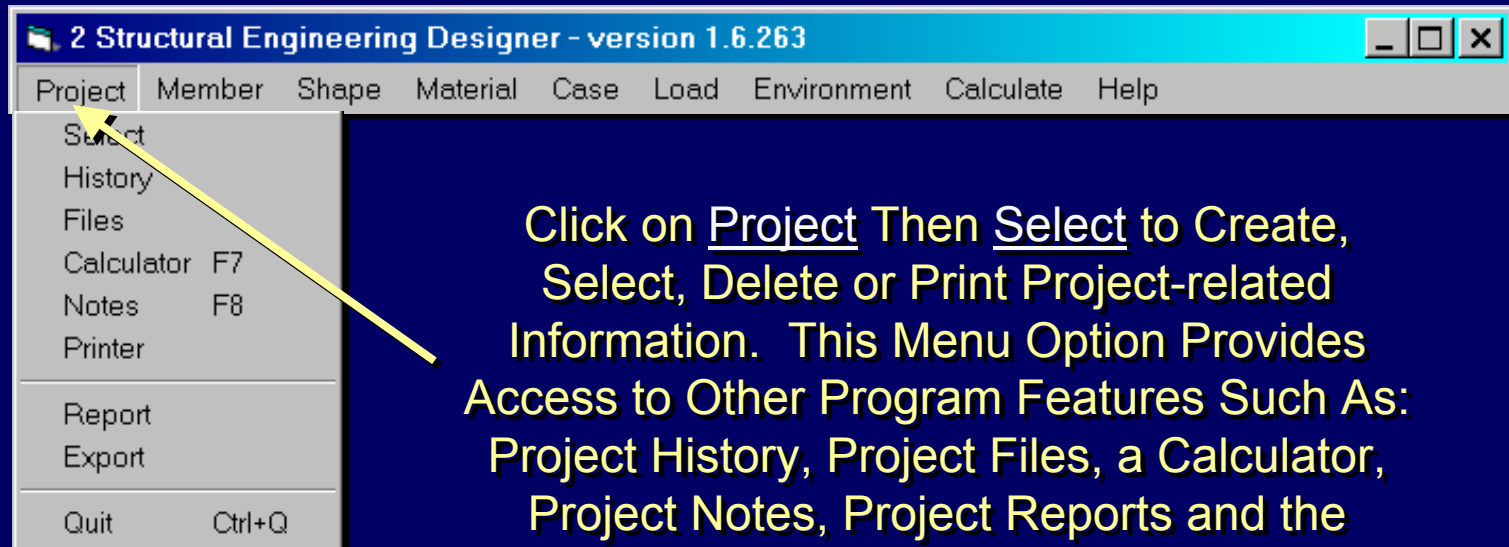
Current Time 3:53 PM



# DEFINING PROJECT-RELATED INFORMATION

## STRUCTURAL ENGINEERING DESIGNER

- First, We Define or Retrieve Some Project-related Information, Such as Job Location, Customer, Engineer-in-charge, Start Date and Telephone Numbers. While Optional, the Project Function Can Help Manage Complex Engineering Projects.





# THE SELECT PROJECT SCREEN

STRUCTURAL ENGINEERING DESIGNER

- This Is the Select Project Screen. Project, Customer and Job Information Go Here.

**9 Select Project**

Project Number  Project ID  Project Type

Project Name

Project Reason

Design Engineer  Estimated Completion Date

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Customer Name

Job Address

Job City  Job State

Zip Code  Job Telephone

---

Structure Description

Structure Type  Structure Use

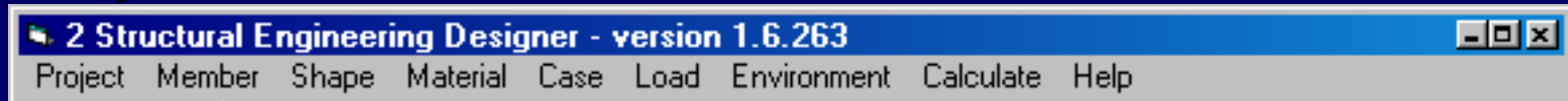
Number of Floors



# MEMBER-RELATED INFORMATION

STRUCTURAL ENGINEERING DESIGNER

- Next, We Define Some Member-related Information, Such As Member Identification, Member Description and Member Length and Other Member-related Information. While Optional, the Member Function Also Helps Manage Complex Engineering Projects.



Click on Member to Create, Select, Delete or Print Member-related Information. The Select Member Screen Appears.

3 Select Member

Member ID =

Member Description =

Member Length =  in.

Area Supported By This Member =  ft2 (structures only)

Number of Like Members Sharing This Load =

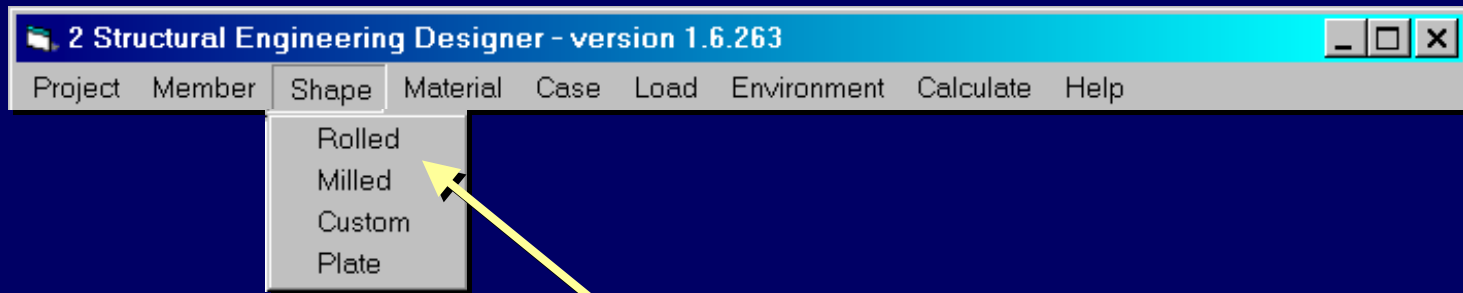
Check if this member is part of a structure -



# SHAPES

## STRUCTURAL ENGINEERING DESIGNER

- Next, We Select a Shape. The Shape Can Be One of a Rolled, Milled, Custom or Plate Shape.



Click on Shape, Then Rolled, Milled, Custom or Plate. There Are Over 1800 Different Shapes (And an Unlimited Number of Custom Shapes) From Which to Select. We Can Come Back and Change Our Selection at Any Time During the Analysis.



# SELECT ROLLED SHAPE

STRUCTURAL ENGINEERING DESIGNER

- The Select Rolled Shape Screen Appears When Rolled Is Selected. There Are Over 1700 Different Rolled Shapes From Which to Choose.

**1 Select Rolled Shape**

There are  Wide-Flange Shapes of type  on file.

Naming convention

Sort by  
 Shape Number  Moment of Inertia  Section Modulus

---

Name

Type  Area =  in<sup>2</sup>.

Actual depth  in. Distance from neutral axis to extreme fiber =  in

Actual width  in. Moment of inertia about the x axis =  in<sup>4</sup>

OD  in. Section modulus about the x axis =  in<sup>3</sup>

ID  in. Radius of gyration =  in

Shape number



# SELECT MILLED SHAPE

STRUCTURAL ENGINEERING DESIGNER

- The Select Milled Shape Screen Appears When Milled Is Selected. There Are Over 50 Different Milled Shapes From Which to Choose.

1 Select Milled Shape

There are  All Milled Shapes of type  on file.

Naming convention

Sort by  
 Shape Number  Moment of Inertia  Section Modulus

Select Type

---

Name

Type  Area =  in<sup>2</sup>.

Actual depth  in. Distance from neutral axis to extreme fiber =  in

Actual width  in. Moment of inertia about the x axis =  in<sup>4</sup>

OD  in. Section modulus about the x axis =  in<sup>3</sup>

ID  in. Radius of gyration =  in

Select Name

Shape number

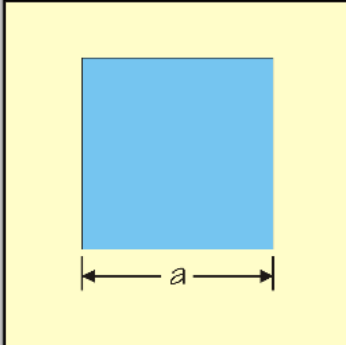


# CUSTOM SHAPE

## STRUCTURAL ENGINEERING DESIGNER

- The Select Custom Shape Screen Appears When Custom Is Selected. There Are 42 Different Custom Shape Types With an Unlimited Number of Shapes for Each.

12 Select Custom Shape



Shape type -

Neutral axis located about -

Custom shape number -

Comments -

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Shape Name -

a, reqd - <input checked="" type="checkbox"/>	<input type="text" value="0.125"/>	r, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	Area (A) = <input type="text" value="1.56250E-02"/>	in <sup>2</sup>
b, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	R, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	Distance from axis to extreme fiber (y) = <input type="text" value="6.25000E-02"/>	in
c, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	s, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	Moment of inertia (I) = <input type="text" value="2.03451E-05"/>	in <sup>4</sup>
d, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	t, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	Section modulus (Z) = <input type="text" value="3.25521E-04"/>	in <sup>3</sup>
D, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	T, reqd - <input type="checkbox"/>	<input type="text" value="0"/>	Radius of gyration (k) = <input type="text" value="3.61250E-02"/>	in
h, reqd - <input type="checkbox"/>	<input type="text" value="0"/>				
k, reqd - <input type="checkbox"/>	<input type="text" value="0"/>				
l, reqd - <input type="checkbox"/>	<input type="text" value="0"/>				
m, reqd - <input type="checkbox"/>	<input type="text" value="0"/>				
n, reqd - <input type="checkbox"/>	<input type="text" value="0"/>				

Checked items must be entered BEFORE CALCULATE is clicked. All values are in inches.



# PLATE SCREEN

## STRUCTURAL ENGINEERING DESIGNER

- The Plate Screen Appears When Plate Is Selected. There Are 11 Different Plate Types From Which to Choose.

**51 Plate**

Select a plate type

Type 1 - A square flat plate supported at top and bottom of all four edges and the load uniformly distributed over the surface of the plate.

Type 2 - A square flat plate supported at the bottom only of all four edges and the load uniformly distributed over the surface of the plate.

Type 3 - A square flat plate with all edges firmly fixed and the load uniformly distributed over the surface of the plate.

Type 4 - A square flat plate with all edges firmly fixed and the load uniformly distributed over a small circular area at the center of the plate.

Type 5 - A square flat plate with all edges supported above and below, or below only, and the load concentrated over a small circular area at the center of the plate.

Type 6 - A rectangular flat plate with all edges supported at the top and bottom and the load uniformly distributed over the surface of the plate.

Type 7 - A rectangular flat plate with all edges fixed and the load uniformly distributed over the surface of the plate.

Type 8 - A circular flat plate with the edge supported around the circumference and the load uniformly distributed over the surface of the plate.

Type 9 - A circular flat plate with the edge fixed around the circumference and the load uniformly distributed over the surface of the plate.

Type 10 - A circular flat plate with the edge supported around the circumference and the load concentrated at the center of the plate.

Type 11 - A circular flat plate with the edge fixed around the circumference and the load concentrated at the center of the plate.

Length =  in

Thickness =  in

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Area of plate surface =  in<sup>2</sup>

Volume of plate =  in<sup>3</sup>

Material weight =  lbs/ft<sup>3</sup>

Weight of plate =  lbs

Modulus of Elasticity =  psi

Total calculated load =  lbs

Calculated Stress is from  psi to  psi

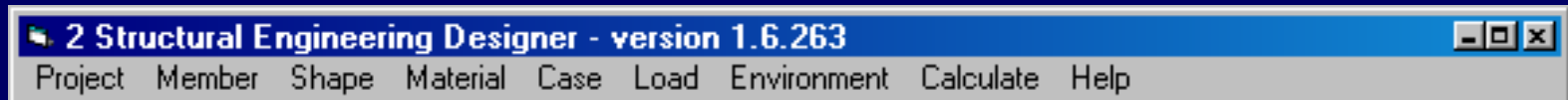
Calculated Deflection is from  in to  in



# SELECTING A MATERIAL

STRUCTURAL ENGINEERING DESIGNER

- Now That We Have the Project, Member and Shape Defined, We Can Move on to Selecting a Material for the Shape.



Click on Material to Select or Print Material-related Information. The Select Material Screen Appears. There Are Over 200 Different Materials From Which to Select. We Can Come Back and Change Our Selection Any Time During the Analysis.



# MATERIAL SCREEN

## STRUCTURAL ENGINEERING DESIGNER

- On the Select Material Screen, We Can Select From a Wide Variety of Materials. We Can Choose Different Grades of Ferrous and Non-ferrous Metals, Species of Wood, Types of Glass, Plastic, Concrete or Plywood Materials.

### 7 Select Material

There are   materials of type  on file.

Naming Convention is

Sort by—

Material Number  
  Weight  
  Modulus of Elasticity  
  Yield

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Material Number   
 Material

Grade/Brand Name

Weight  lbs/ft3

Modulus of Elasticity, (in Tension)  psi

Modulus of Elasticity, (in Shear)  psi

Ultimate, (in Tension)  psi

Ultimate, (in Compression)  psi

Ultimate, (in Shear)  psi

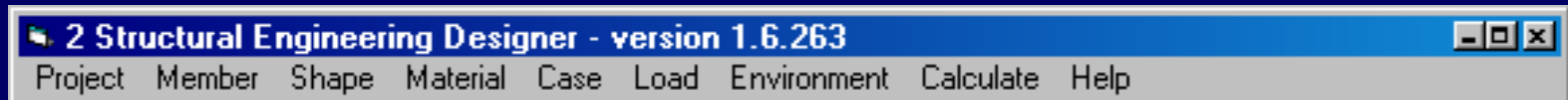
Yield  psi



# LOAD AND SUPPORT CASE

STRUCTURAL ENGINEERING DESIGNER

- Now, We Select the Type of Load and Support Case to Which Our Member Is Subjected.



Click on Case to Select or Print Case Related Information. The Select Case Screen Appears. There Are Over 20 Different Cases From Which to Select. We Can Come Back and Change Our Selection Any Time During the Analysis.

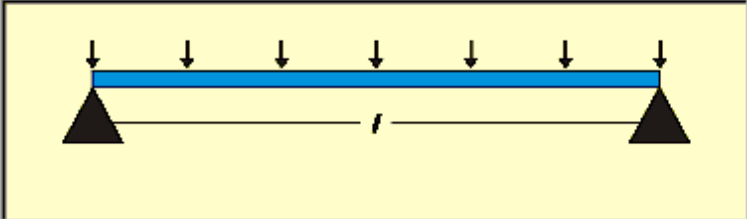


# LOAD AND SUPPORT CASE (cont'd)

STRUCTURAL ENGINEERING DESIGNER

- We Now Select a Load and Support Case. We Ensure That the Required Dimensions Are Input (the Program Will Check for Us). There Are Over 20 Different Load and Support Cases From Which to Choose.

**6 Select Case**



Supported at Both Ends, Uniform Load

Stress at Center

Maximum Deflection, at Center

CASE =

l distance, reqd -	<input checked="" type="checkbox"/>	<input type="text" value="1.20000E+02"/>	in = Distance between supports
L distance, reqd -	<input type="checkbox"/>	<input type="text" value="0.00000E+00"/>	in = Overall length of member
a distance, reqd -	<input type="checkbox"/>	<input type="text" value="0.00000E+00"/>	in = Distance from support to load
b distance, reqd -	<input type="checkbox"/>	<input type="text" value="0.00000E+00"/>	in = Distance from other support (end) to load
c distance, reqd -	<input type="checkbox"/>	<input type="text" value="0.00000E+00"/>	in = Distance from end of member to support
d distance, reqd -	<input type="checkbox"/>	<input type="text" value="0.00000E+00"/>	in = Distance from end of member to other support

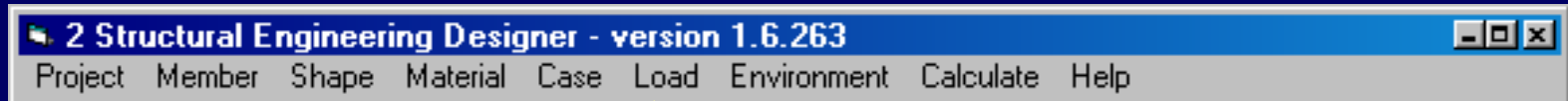
Checked items must be entered BEFORE OK is clicked.



# DEFINE THE LOADS

STRUCTURAL ENGINEERING DESIGNER

- We Are Now Ready to Define the Loads to Which Our Member Will Be Subjected.



Click on Load to Select or Print Load Related Information. If We Indicate That This Member Is Part of a Structure, The Occupancy and Use Certification Screen Appears Next. We Can Come Back and Change Our Selection Any Time During the Analysis.



# OCCUPANCY AND USE CERTIFICATION

STRUCTURAL ENGINEERING DESIGNER

- To Ensure That Our Analysis Conforms to Code, We Must Declare the Type of Occupancy and Use to Which Our Structural Member Is Subjected. This Screen Sets Various Coefficients Used in Calculating Both the ASD and the LRFD Models.

**22 Occupancy and Use Certification**

Occupancy and use classification of buildings and other structures for flood, wind, snow and earthquake loads

Select One

Category I

Category II

Category III

Category IV

Category I occupancy defines buildings that represent a low hazard to human life in the event of failure including, but not limited to:  
Agricultural facilities

Category II occupancy defines all buildings and other structures except those listed in Categories I, III and IV.

Category III occupancy defines buildings and other structures that represent a substantial hazard to human life in the event of failure including, but not limited to:  
Buildings and other structures where more than 300 people congregate in one area

Category IV occupancy defines buildings and other structures designated as essential facilities including, but not limited to:  
Hospitals and other health care facilities having surgery or emergency treatment facilities

Check if this structure will be used as a garage or a place of public assembly.

Check if this structure is in a V or coastal A flood zone

Check if the load due to lateral earth pressure, ground water pressure or pressure of bulk materials counteracts either wind load or earthquake load.

Check if this structure is in a non-coastal A flood zone

define

PRINT

Ref - ASCE Standard 7-98 Table 1.1  
Ref - ASCE Standard 7-98 sections 2.3 and 2.4

CANCEL OK



# VARIOUS MEMBER LOADS

STRUCTURAL ENGINEERING DESIGNER

- This Screen Allows Us to Input, Calculate or Estimate the Various Loads to Which Our Structural Member Will Be Subjected. If the Values Are Known, They Can Be Input Directly. If Not, a Click on the “Define” Button Launches an Extensive Set of Functions That Will Assist in Determining Locale, Structure, Use or Arbitrarily Related Loads, All in Conformance With BOCA and All Are Location-sensitive.

**8 Member Loads**

Member Weight -	2.04167E+03	lbs	
Dead load -	0.00000E+00	lbs	define
Earthquake load -	0.00000E+00	lbs	define
Load due to fluids with well-defined pressures and maximum heights -	0.00000E+00	lbs	
Flood load -	0.00000E+00	lbs	
Load due to lateral earth pressure, ground water pressure or pressure of bulk materials -	0.00000E+00	lbs	define
Live load -	0.00000E+00	lbs	define
Roof live load -	0.00000E+00	lbs	define
Rain load -	0.00000E+00	lbs	define
Snow load -	0.00000E+00	lbs	define
Self-straining force -	0.00000E+00	lbs	
Wind load -	0.00000E+00	lbs	define

Include member weight with dead load?
 PRINT

CANCEL
OK



# NON-STRUCTURAL LOADS

STRUCTURAL ENGINEERING DESIGNER

- This Screen Allows Us to Input, Calculate or Estimate the Various Loads to Which Our Non-structural Member Will Be Subjected. We Can Use Any Safety Factor and SED Will Calculate Stress and Deflection Accordingly. SED Loads Can Be Anything Between Millions of Pounds and Millionths of Ounces.

**29 Non-structure Loads**

Member Weight =  lbs

Dead Load =  lbs

Live Load =  lbs

Include member weight with dead load?

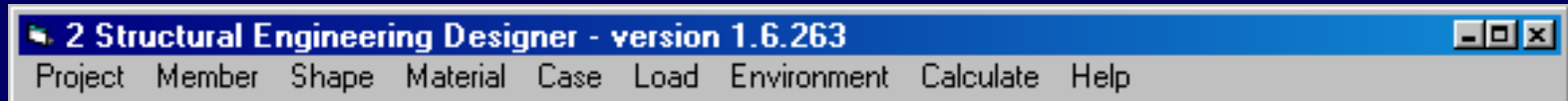
Safety Factor =  to 1



# CALCULATE

## STRUCTURAL ENGINEERING DESIGNER

- We Are Now Ready to Calculate the Stresses and Deflections to Which Our Member Will Be Subjected.



Click on Calculate to View or Print the Results of Our Analysis. The Final Calculation Screen Appears Next. We Can Come Back and Change Our Selections Any Time During the Analysis, Even After We Have Performed Our Final Calculations!



# THE RESULTS...

## STRUCTURAL ENGINEERING DESIGNER

- After Just a Few “Key Clicks”, These Are the Answers We’ve Been Searching for!

**31 Final**

Member =

Shape =

Material =

Case =

Stress Critical Point =

Deflection Critical Point =

---

Cross Sectional Area =  in<sup>2</sup>      Radius of Gyration =  in

Member Length =  in      Member Weight/ft =  lbs

Member Volume =  in<sup>3</sup>      Material Weight/ft<sup>3</sup> =  lbs

Moment of Inertia =  in<sup>4</sup>      Member Weight =  lbs

Section Modulus =  in<sup>3</sup>      Modulus of Elasticity =  psi

Member Length / Radius of Gyration =       Yield =  psi

---

	LRFD		ASD	
Total Calculated Load =	<input type="text" value="4.68290E+03"/>	lbs	<input type="text" value="3.34493E+03"/>	lbs
Calculated Stress =	<input type="text" value="-4.33602E+01"/>	psi	<input type="text" value="-3.09716E+01"/>	psi
Calculated Deflection =	<input type="text" value="1.12932E-04"/>	in	<input type="text" value="8.06655E-05"/>	in



# KEY DATA POINTS

STRUCTURAL ENGINEERING DESIGNER

- These Are the Key Data Points That Have Been Computed, Each Based on Our Earlier Selections.

**31 Final**

Member =

Shape =

Material =

Case =

Stress Critical Point =

Deflection Critical Point =

---

Cross Sectional Area =  in<sup>2</sup>      Radius of Gyration =  in

Member Length =  in      Member Weight/ft =  lb/ft

Member Volume =  in<sup>3</sup>      Member Weight (lb) =  lbs

Moment of Inertia =  in<sup>4</sup>      Member Weight =  lbs

Section Modulus =  in<sup>3</sup>      Modulus of Elasticity =  psi

Member Length / Radius of Gyration =       Yield =  psi

---

	LRFD	ASD
Total Calculated Load =	<input type="text" value="4.68290E+03"/> lbs	<input type="text" value="3.34493E+03"/> lbs
Calculated Stress =	<input type="text" value="-4.33602E+01"/> psi	<input type="text" value="-3.09716E+01"/> psi
Calculated Deflection =	<input type="text" value="1.12932E-04"/> in	<input type="text" value="8.06655E-05"/> in

Member and Case-related Data

Member and Material-related Data

Total Calculated Loads, Stress and Deflection for Both LRFD and ASD Computation Models



# OPTIMIZATION

## STRUCTURAL ENGINEERING DESIGNER

- Click OK on the Final Calculation Screen and the Optimization Screen Appears. Changes to Section Modulus, Moment of Inertia, Modulus of Elasticity or Factored Loads Are Recommended Here. Testing and Then Following These Recommendations Can Result in an Optimal Design.

**59 Optimization**

For CASE =     Session ID =     Shape Name =

1 - Using a shape with a lesser section modulus may cause a favorable increase in stress.  
 2 - Using a shape with a greater section modulus may cause a favorable reduction in stress.  
 3 - Using a material with a lesser modulus of elasticity or a shape with a lesser moment of inertia may cause a favorable increase in deflection.  
 4 - Using a material with a greater modulus of elasticity or a shape with a greater moment of inertia may cause a favorable reduction in deflection.  
 5 - A different combination of shape and material may cause a favorable change in stress and/or deflection.  
 6 - Check all acceptable limits for the shape, material, case and load selected.  
 7 - The addition of one or more like members or the reduction of one or more factored loads may cause a favorable reduction of both stress and deflection.

NOTE - Optimization assumes that the member length and case parameters are fixed. The parameters that can be changed with this feature are the Section Modulus and Moment of Inertia of the selected shape, the Modulus of Elasticity of the selected material and the Factored Load. If member length or case parameters can be changed, make those changes BEFORE attempting to optimize with this feature. Best results are obtained by changing one element at a time.

SELECTED		Drag sliders to optimize the selected values up or down		OPTIMIZED	
Section Modulus =	<input type="text" value="1.620000E+03"/> in3		<input type="text" value="0%"/>	<input type="text" value="1.620000E+03"/> in3	Increase
Moment of Inertia =	<input type="text" value="3.110000E+04"/> in4		<input type="text" value="0%"/>	<input type="text" value="3.110000E+04"/> in4	Increase
Modulus of Elasticity =	<input type="text" value="3.000000E+07"/> psi		<input type="text" value="0%"/>	<input type="text" value="3.000000E+07"/> psi	Increase
Factored Load =	<input type="text" value="2.040139E+06"/> lbs		<input type="text" value="0%"/>	<input type="text" value="2.040139E+06"/> lbs	Decrease

CALCULATED			OPTIMIZED		
Stress =	<input type="text" value="1.889018E+05"/> psi	<input type="text" value="590.3"/> % of Yield	Stress =	<input type="text" value="1.889018E+05"/> psi	<input type="text" value="590.3"/> % of Yield
Deflection =	<input type="text" value="4.919950E+01"/> in	<input type="text" value="4.10"/> % of Length	Deflection =	<input type="text" value="4.919950E+01"/> in	<input type="text" value="4.10"/> % of Length
	<input type="text" value="4.9"/> add'l members			<input type="text" value="4.9"/> add'l members	

YIELD EXCEEDED!  
1/120 RULE VIOLATION!

Use OPTIMIZED as targets



# A HELP SYSTEM THAT ACTUALLY HELPS

STRUCTURAL ENGINEERING DESIGNER

2 Structural Engineering Designer - version 1.6.263

Project Member Shape Material Case Load Environment Calculate Help

User Guide  
Case Properties  
Custom Shape Properties  
Terms and Definitions  
How do I ... ? F9

Disclaimer  
License Agreement  
Technical Support  
Data Element Viewer Ctrl+D  
View Log File  
View Export File  
Design Assistant F3  
Options

About SED  
Readme  
References

Most HELP Systems Are Built Upon the Assumption That If You Need HELP, You Have to Know a Lot About the Problem. SED's HELP System Is Built Upon the Assumption That If You Need HELP, You Probably Know Little About the Problem! SED's HELP System Answers Real Users Questions Like: Where Did I Put The User Guide?, How Do I...?, What Does That Term Mean?, How Do I Get Started Designing Something?





# 8,900,000 UNIQUE COMPUTATION RESULTS

STRUCTURAL ENGINEERING DESIGNER

- By Selecting One of SED's 1864 Different Shapes, Made of One of SED's 217 Different Materials, Under One of SED's 22 Different Load and Support Cases, There Can Be About 8,900,000 Unique Computation Results! If We Factor in SED's 7 Different Temperature Parameters, 4 Different Occupancy and Use Categories, As Well As SED's 4 Different General Location Classes, We Have About 997,000,000 Unique Computation Results. Now, Consider Each of These Unique Computation Results in Any One Of Over 200 City Locations And The Number of Possible Combinations Get Very Big!
- In Most Cases, There Is but One of These Combinations That Is Best for a Particular Job. Selecting the Best Is the Best Way to Do the Best Job!



## THE NEXT STEP

### STRUCTURAL ENGINEERING DESIGNER

- That Completes the Demo of SED.
- As Stated Earlier, There Are Many More Features and Functions Than We Can Show Here.
- The Next Step Is to Purchase the Program
  - *Note: Styx Systems, Inc. Offers a Complete No Risk Guarantee If Not Completely Satisfied.*
- We'll Give You SED to Evaluate for 10 days at No Cost and No Obligation! We'll Even Pay the Postage!



# FINALLY...

## STRUCTURAL ENGINEERING DESIGNER

- Order SED Today at No Cost or Obligation! The Program Will Be Sent Within 5 Business Days to the Address You Specify. After the Program Is Installed (All Program Functions and Features Are Unrestricted and Available to You During The Evaluation Period, Even Printed Reports!), You Have 10 Days to Evaluate, Register and Pay for the Program. If You Are Not Completely Satisfied Within the 10 Day Evaluation Period, You Can Send the Product Back, Uninstall It or Do Nothing (the Locked Program Will Not Run After the Evaluation Period Expires).
- If, on the Other Hand, You Recognize the Value of the Program and Want to Continue to Use It, Send the Self-generated Form to Styx Systems, Inc. At the Address on the Form Via Email, Regular Mail, Telephone or Fax. Styx Systems, Inc. Will Return an Unlock Code That You Load Into the Program. After Installing the Unlock Code, You Have Unlimited Access to the Program on the Installed Computer.
- If You Would Like to Share SED With a Friend or Colleague, You May Do So. The Shared Version Will Run for 10 Days and Requires an Unlock Code to Continue to Run With The Same Purchase Requirement.



# ORDERING IS EASY...

STRUCTURAL ENGINEERING DESIGNER

- You can place an order from our website, [www.sedesigner.com](http://www.sedesigner.com)
- You can place an email order, [orders@sedesigner.com](mailto:orders@sedesigner.com)
- You can place a FAX order to 703 442-8346
- You can place a telephone order to 703 356-0468
- SED costs \$95.00 and is shipped on a CD-ROM. Included on the CD-ROM are:
  - The application software
  - The application database
  - The SED User Guide
  - The SED Tutorial
  - The SED Quick Start Guide
  - The SED Case Properties and Equations Guide
  - The SED Custom Shape Properties and Equations Guide
- All documentation can be viewed or printed from within the application.