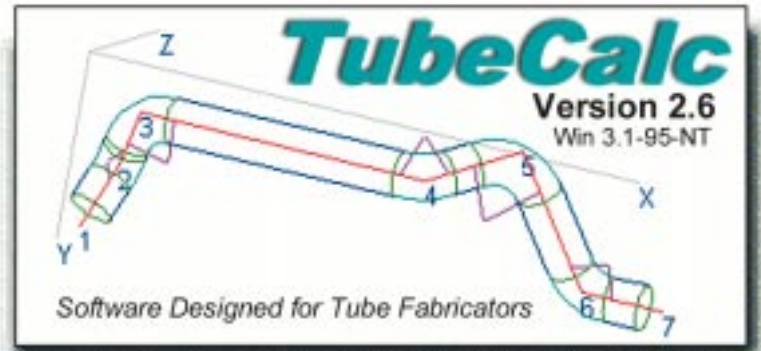




TubeCalc for Windows

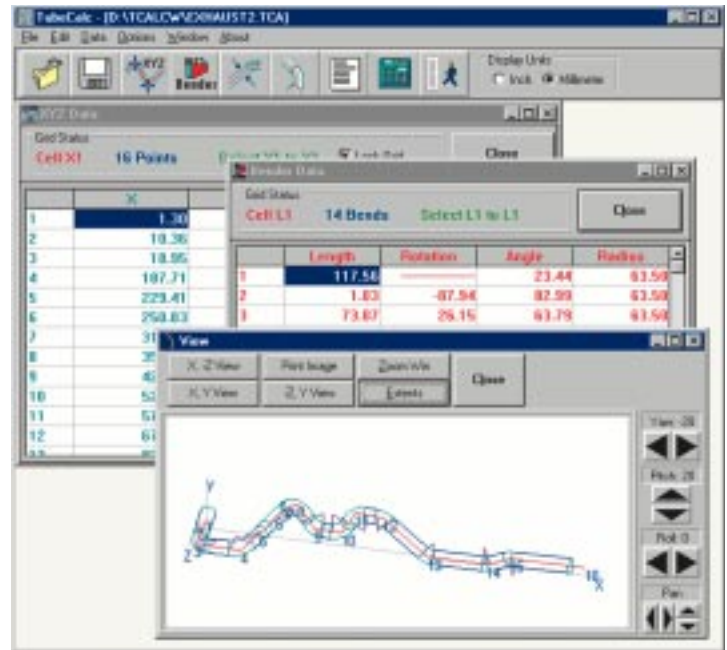
The Tube Fabricators Software Power Tool.



MAJOR FEATURES

- Calculates bender data from centerline XYZ coordinates and bend radii.
- Calculates the price for each tube based upon the cost of the material.
- Calculates total length (without elongation) and cut length (with elongation) of the tube.
- Calculates the bending time per tube based upon entered bending speeds.
- Displays an image (with OD) of the tube that can spin into any orientation.
- Builds reports automatically, and copy data from TubeCalc to other Windows programs.
- Saves and Loads data files to disk, Imports TubeCAD data files.
- Exports bender data to EATON LEONARD FIF files.
- Imports and Exports Supravisation files.

TubeCalc displays multiple types of data at the same time. See the image below for an example. The View Window is on top, but directly under that window is the XYZ Data Window, and under that is the Bender Data Window. These windows can be cascaded or tiled in order to view the data in any way you desire.



General Specification Data

Enter a part name (not just the file name), the customer name, revision notes, bender type and other notes in this menu.

Centerline and Bender Data

Bender data (Length, Rotation, Angle) is calculated the moment data is entered in the Centerline Data grid (XYZ coordinates). The Bender Data window always reflects the state of the coordinates in the Centerline Data window.

Lengths Specification Data

Display the length-related calculations for the tube: total length, cut length, cut length cost, X, Y, and Z span, and End to End span, in this menu. The menu allows you to adjust the elongation variable that controls the amount of elongation per degree of bend in your tube process.

Bend Time Specification Data

This menu calculates the bend time for a single part. The derived values are based upon average bending speeds entered.

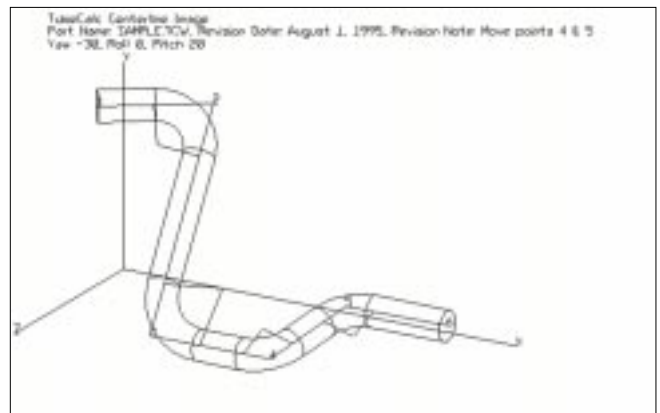
Material Specification Data

Enter a material name, the OD, wall thickness, offsets for either end, and the material price in this menu.

View Window

The View window displays the centerline of the tube as defined by the Centerline Data window.

The image in the window can spin to any orientation using the Yaw, Pitch, and Roll spin buttons. The image can be oriented to any of three main views by pressing one of the primary view buttons.



This is a sample image created by TubeCalc and exported to AutoCAD using the DXF file format.

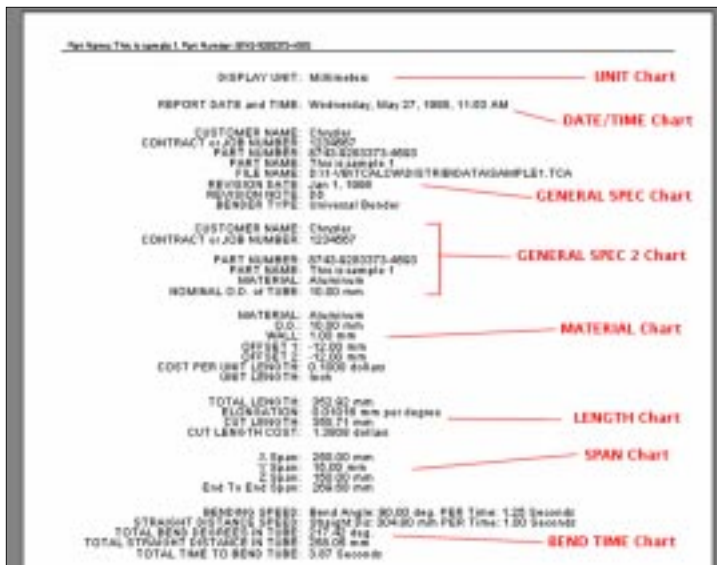


Report Windows

Alphanumeric data can be printed or copied to another program within Windows using the clipboard.

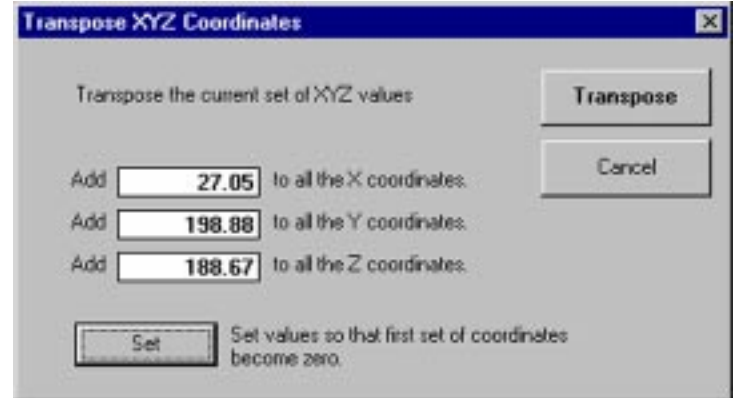
Reports include:

- Units Displayed
- Date/Time
- General Specs
- General Specs 2
- Material Specs
- Length Specs
- Span Distances
- Bend Time Specs
- Centerline XYZ Data
- Centerline XYZ Data 2
- XYZ Tangent Point Data
- Bend Data
- Bend Data 2
- NC Tube Bender
- Conrac Hydraulic Bender
- Accumulated Length Bender Data
- Empty Row
- New Line
- Horizontal Line



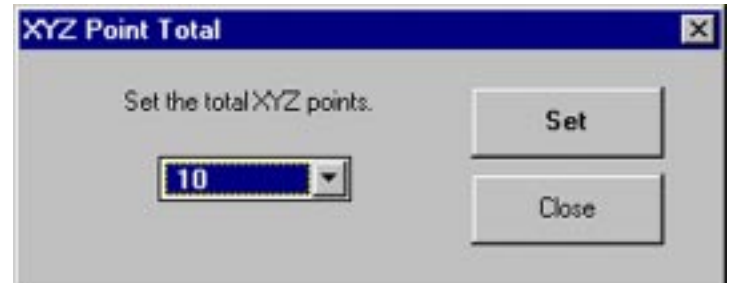
Transpose XYZ Coordinates

TubeCalc can now transpose (shift) XYZ coordinates in space using the new “TRANSPOSE” command. Users of earlier TubeCalc versions will also notice a new “DATA” command in the TubeCalc 2.6 main menu to open this new command.



Quick Point Number Set

TubeCalc uses a new “XYZ POINT TOTAL” command that allows users to set the number of points with a quick drop-down list.



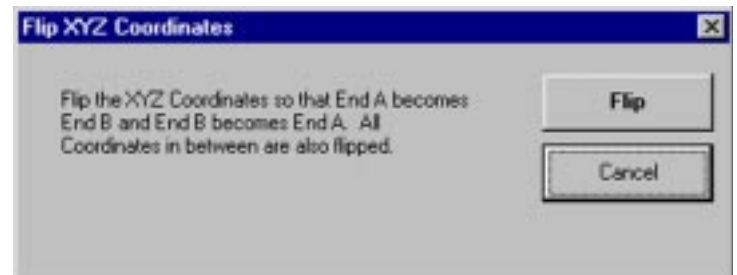
Elongated Compensation

TubeCalc takes into account elongation for all reports that show distances between bends and total lengths. The CUT LENGTH value is based upon the elongation distance per degree value entered in the LENGTHS page of the Specification Data Menu



Flip Coordinates End for End

TubeCalc can now “flip” the ends of a tube using this new command.





Open File Structure Of TubeCalc Files

TubeCalc's data file structure uses standard ASCII and is designed to be easy to read and understand. You won't see any cryptic symbols in its file structure.

Many of our customers have written macros and scripts within Pro/E, Catia, and other CAD systems to build the TubeCalc files for distribution to those in their business who have TubeCalc for Windows. They often report adding the TubeCalc-building scripts in a simple task that takes less than a day.

The file structure is so simple that we've been told by customers that they actually enter TubeCalc files in Notepad either in the plant or in the field, then e-mail them back to the plant for loading into TubeCalc! Because it is being used this way, the TubeCalc structure is now modified slightly to make it even more useful for those who use the TubeCalc files. One important change is that TubeCalc 2.6 files use a new "[Unit]" field to allow you to enter data in either Inches or Millimeters. For example "[Unit]=Inch" can be placed toward the top of the file to indicate that all incoming data is in Inches. (Use "[Unit]=Millimeter" to indicate Millimeters.)

The following data is an example of all that is necessary for building a TubeCalc file:

```
[Advanced Tubular Technologies File Type]=TubeCalc
Data File v.2

[Unit]=Millimeter

[XYZ]=7
697.920000, 767.26000, 0.000000, 0.000000
795.680000, 774.780000, 0.000000, 88.900000
1054.660000, 676.940000, 101.600000, 63.500000
795.680000, 579.090000, 0.000000, 88.900000
215.900000, 622.300000, 0.000000, 57.150000
215.900000, 731.570000, 0.000000, 57.150000
697.920000, 767.260000, 0.000000, 0.000000

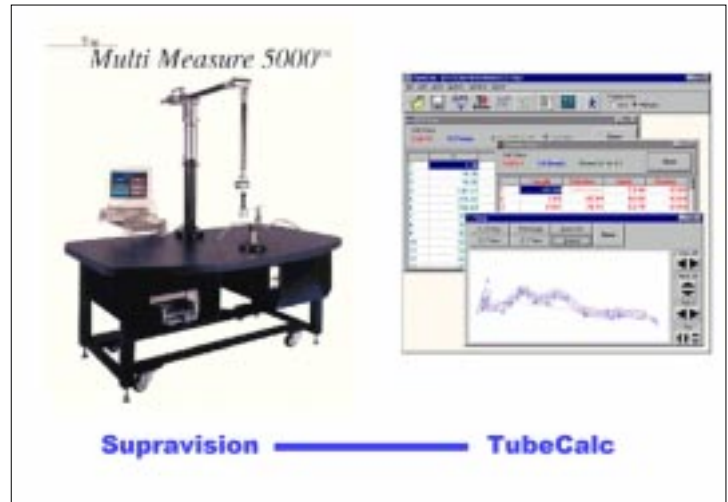
[Material OD]= 19.05
```

These coordinates build the snow shoe sample on the distribution disk. Note that the extra zeroes are only for alignment. They can be omitted. Case is not important. Spaces are not important.

TubeCalc is now NETWORK Enabled

TubeCalc can now operate with a single network key with multiple network licenses. The network package frees your staff from being constrained to one hardware key per workstation. The starter network package allow five users to simultaneously use TubeCalc on five workstations at one time. TubeCalc can be installed to all your workstations, even if that number is higher than the total number of TubeCalc licenses purchased. The network hardware key allows users to login automatically if there are unused licenses available. As soon as a user closes TubeCalc, a license is freed at the server for use by another user.

Import/Export Supravisation Files



TubeCalc imports and exports Supravisation files. Supravisation software is used by several measuring centers, including the Multi Measure 5000. This feature is perfect for pre-entering Supravisation data in workstations before transfer to measuring centers.

Computer/Platform Requirements

- Microsoft Windows 3.1, 95, 98, NT
- Minimum of 4 Megabytes of RAM in Windows 3.1 or
- Minimum of 8 Megabytes of RAM in Windows 95 or 98
- Requires less than 2 Megabytes of disk space
- High Capacity 3.5" floppy drive or CD-ROM Drive for installation (please specify in order).
- One parallel printer port.

