



# CADFIL<sup>®</sup>-Elbow Winding

Quick-CAD

QuickCad : Elbow Winding

2 Axis Mode     Non-Geodesic     Joining Path

Mandrel Radius: 250    Cancel

Centre Line Bend Radius: 670    Read Param's

Bend Angle (Degrees 0-90): 90    Write Param's

Parallel Length (Both end): 80

Wind Axis Position: 0.000000    CALCULATE

Number of points per rotation: 12    Help

Fibre Band Width: 80

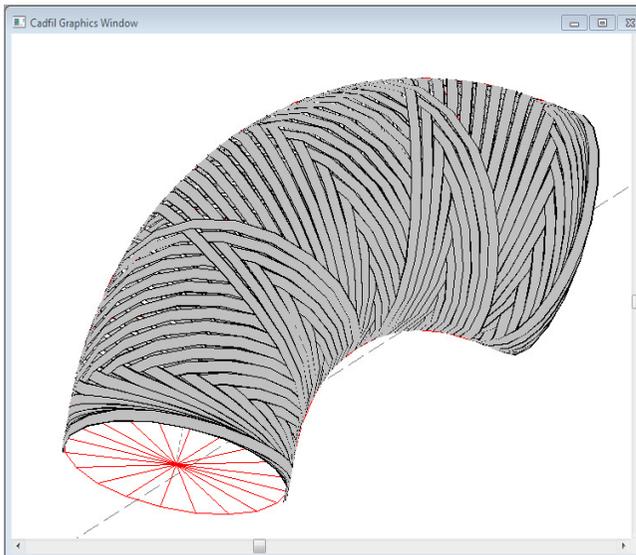
Free Fibre Length: 300

Friction Coefficient e.g.0.2: 0.2

Wind Angle (Degrees 40-90): 72    X From Previous Pay-File

Mandrel Direction +1/-1: 1    X From Next Pay-File

Band Phase Adjustment (degrees): 0.000000



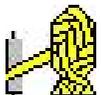
The CADFIL<sup>®</sup> Elbow winding software can be purchased as an add on to a package such as Cadfil-Axsym / Cadfil-Lite or as a stand-alone module. In either case all the advanced graphics features of the Cadfil package are available for displaying machine positions and viewing winding paths. Cadfil software operates on a standard Windows PC.

Programming could not be easier! The user enters data such as the pipe diameter bend radius, fibre bandwidth, wind angle etc. The data is saved as a file and can be recalled and modified. The mandrel surface definition and full coverage winding patterns are then automatically created. A range of wind angles can be produced typically from +/-40 degrees through to hoop. The smallest angles possible are restricted by the geometry such as the size of the bend radius in relation to the pipe diameter. If needed the additional hoop winding can be applied to the cylindrical areas at the ends.

The paths are post-processed in the normal way to generate machine control data. Numerous control options can be set dependant on the axes available on the machine. Different speed control options can be set to reduce winding time or limit axis accelerations. The software calculates the winding time. Modules for out-putting data for Finite Element Analysis can also be supplied. The normal way is a standard 4 axis machine.

Cadfil is supplied configured for the customer's winding machine. Cadfil can be supplied with multiple machine configurations, the user just selects which machine to use. Cadfil can be configured for 2 to 6 axes and for all filament winding machines types and control systems. All Cadfil software comes with 12monmths technical support and maintenance upgrade service.

**Get the benefit of over 25 years of experience in advanced filament winding software and technology. We can provide mandrel designs and complete assistance with the manufacturing process.**



Cadfil is a registered trade mark of Crescent Consultants Ltd

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Elbows V8.

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