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Ref: 9900-1-M3FS18

FastSHAPES® - BIFURCATEPlus 32Bit

TYPICAL APPLICATIONS

Hydro-electric penstock bifurcations
Water and sewage reticulation.

TECHNICAL DESCRIPTION

BIFURC8Plus provides patterns for the developed plates and reinforcing (sickle) plates used in large scale bifurcations where typically plate thicknesses vary throughout the structure, and plate development needs to consider the various welding details and edge preparations required for economical plate cutting and fabrication.

Reinforcing (sickle) plates are optional in any of the three crotches of the bifurcation, and may be either set-in or set-on the shell plates.

The structure is set out using the method of common central spheres. Development uses the radial line method.

Weld preparations may be specified at all joints, and patterns provide for marking intersection lines at weld prep. depth, inside surface intersections, and outside surface intersections. The purpose of such marking is to facilitate preparation for welding, frequently undertaken as a secondary operation.

Each of the three branches may be dissected by circumferential joints into up to four sections, and may additionally have a one or two-section collar, usually cylindrical, to facilitate connection to adjacent pipework.

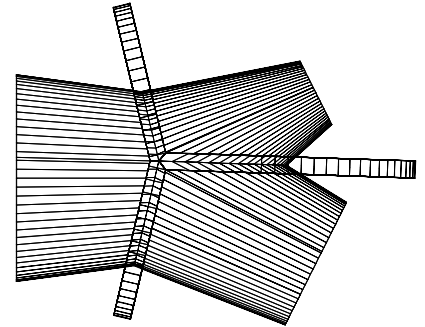
Each section of a branch or collar can be further dissected into up to four segments by longitudinal joints, located to avoid cruciform weld joint details.

Green may be added to any or all edges of each individual segment.

Patterns may be arranged to defer cutting until after rolling when the development involves significant variation in plate width for rolling.

Patterns include marking of rolling guides (generators) and constant curvature lines.

Match marks for inside and outside of bend, and top & bottom dead centre.



Continued...

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DATA REQUIREMENTS

Spheres list, defining XYZ location of centre, plus diameter of sphere (internal diameter of structure).

Stiffeners list, defining thickness and outer profile sizes, plus set-in/on options

Branch lists, defining for each branch & branch collar...

Weld details at adjacent crotch planes (stiffener locations)

Section plane locations

Material thickness for each Section

Segment (longitudinal joint) locations

Green to be added to longitudinal joint edges for each segment in the section

Green to be added to circumferential joint edge 1

Green to be added to circumferential joint edge 2

Circumferential joint (between sections)

Weld details

OUTPUT

Patterns in any of the following forms ...

FastCAM file

2D DXF file, 3D DXF File

NC Program

Coordinate Table

PROGRAM REFERENCE

M3FS18 : BIFURC8PLUS

OTHER REFERENCES

M3FS6 : PBRANCH (Pipe Branch)

M3FS15 : CBRANCH (Conical Branches from a Conical Body)

M3FS17 : BIFURC8 (Generalized Bifurcation)

