

# Process, Power and Marine Division

SP3D Piping Reference Data

## *10-Pipe Bend Manufacturing Rules*



 **INTERGRAPH**

# Pipe Bending Manufacturability Rules

## Permissible Pipe Bending Machine

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Head	SpecName	NominalPipingDiameterFrom	NominalPipingdiameterTo	NominalPipingDiameterUOM	PipeBendingMachineName
Start					
	2L1670	2	6	in	1
	N0	25	150	mm	1
	N1	25	150	mm	2

# Pipe Bending Manufacturability Rules

## Pipe Bending Machine Data

Head Start	PipeBendingMachineName	PipeBendingMachineDescription	PipeBendingMachineType	HeightAboveShopFloor	MaximumPipeLength	MaximumNumberOfBends	MaximumBendAngle	MinimumBendAngle	MaximumCapacity	MaximumSectionModulus	MaximumCenterlineRadius
	1	Schwarze Robitec CNC165HD	4	68in	144in		180deg			10.2in <sup>3</sup>	
	2	Pedrick Model E-20	4							8.5in <sup>3</sup>	

# Pipe Bending Manufacturability Rules

## Pipe Bending Die Data

Head	PipeBendingMachineName	NominalPipeDiameter	NominalPipeDiameterUOM	PipeBendRadiusMultiplier	AbsolutePipeBendRadius	MinimumGripLength	MinimumPullLength	DefaultMinTanLenBetweenBends
Start								
	1	1	in	2	2in			
	1	1.5	in	2	3in			
	1	2	in	2	4in			
	1	3	in	2	6in			
	1	4	in	2	8in			
	1	6	in	2	12in			
	1	1	in	3	3in	3.5in	18.625in	4.5in
	1	1.5	in	3	4.5in	5in	17.125in	6.125in
	1	2	in	3	6in	5.875in	13.25in	7in
	1	3	in	3	9in	8.625in	12.25in	10.375in
	1	4	in	3	12in	10.75in	13.625in	12.5in
	1	6	in	3	18in	13.5in	13.5in	13.5in

# Pipe Bending Manufacturability Rules

## Pipe Bending Min Tangent Length Data

Head	PipeBendingMachineName	PipeBendType	MinBendToBendTanLenOption	NominalPipingDiameter	NominalPipingDiameterUOM	PipeBendRadiusMultiplier	MinTanLenBetweenTurn12	MinTanLenBetweenTurn23	MinTanLenBetweenTurn34	MinTanLenBetweenTurn45	MinTanLenBetweenTurn56	MinTanLenBetweenTurn67	MinTanLenBetweenTurn78	OptionalMinimumGripLength	OptionalMinimumPullLength
Start															
	1	4	1	1	in	3									
	1	4	1	1.5	in	3									
	1	4	1	2	in	3									
	1	4	1	3	in	3									
	1	4	1	4	in	3									
	1	4	1	6	in	3									
	1	4	2	1	in	3								1.625in	1.625in
	1	4	2	1.5	in	3								2.125in	2.125in
	1	4	2	2	in	3								2.25in	2.25in
	1	4	2	3	in	3								3.125in	3.125in
	1	4	2	4	in	3								3.75in	3.75in
	1	4	2	6	in	3								3.625in	3.625in



# Pipe Bending Manufacturability Rules

## Pipe Bending Configuration Data

Head	IsBendPlanar	NominalBendAngleFrom1	NominalBendAngleTo1	NonPlanarRotationAngleFrom2	NonPlanarRotationAngleTo2	NominalBendAngleFrom2	NominalBendAngleTo2	NonPlanarRotationAngleFrom3	NonPlanarRotationAngleTo3	NominalBendAngleFrom3	NominalBendAngleTo3	NonPlanarRotationAngleFrom4	NonPlanarRotationAngleTo4
Start													
	1 90deg	90deg											
	1 90deg	90deg	180deg	180deg	90deg	90deg							
	1 0.1deg	44.9deg											
	1 45deg	45deg											
	1 45.1deg	89.9deg											
	1 90.1deg	179.9deg											
	1 90deg	90deg	0deg	0deg	0.1deg	89.9deg							
	1 45deg	45deg	180deg	180deg	45deg	45deg							
	1 45deg	45deg	180deg	180deg	135deg	135deg							
	1 225deg	225deg	180deg	180deg	45deg	45deg							
	1 45deg	45deg	180deg	180deg	45deg	45deg	180deg	180deg	90deg	90deg			
	1 45deg	45deg	180deg	180deg	90deg	90deg	0deg	0deg	45deg	45deg			
	1 90deg	90deg	180deg	180deg	180deg	180deg	0deg	0deg	90deg	90deg			
	1 45deg	45deg	180deg	180deg	270deg	270deg	0deg	0deg	45deg	45deg			
	1 135deg	135deg	180deg	180deg	270deg	270deg	0deg	0deg	135deg	135deg			
	1 90deg	90deg	0deg	0deg	90deg	90deg	0deg	0deg	45deg	45deg	180deg	180deg	
	1 45deg	45deg	180deg	180deg	45deg	45deg	180deg	180deg	45deg	45deg	0deg	0deg	
	1 90deg	90deg	180deg	180deg	90deg	90deg	180deg	180deg	90deg	90deg	0deg	0deg	
	1 45deg	45deg	180deg	180deg	45deg	45deg	180deg	180deg	90deg	90deg	180deg	180deg	
	1 90deg	90deg	0deg	0deg	45deg	45deg	180deg	180deg	45deg	45deg	180deg	180deg	