

Process, Power and Marine Division

SP3D Piping Reference Data

3-Piping Material Control data



 **INTERGRAPH**

Piping Commodity Material Control Data

- The Piping Commodity Material Control Data sheet defines the material control data for the piping specification. This information does not vary per piping materials class.

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHAAZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ			4750			7	10
MFLAHAAZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ			4751			7	10
MFKAHAAZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated ty			4750			7	10
MFKAMAAZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated ty			4751			7	10
MFMFAAAZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz			1125			7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,			4225			7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone			2715			7	10

Contractor Commodity Code

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA.AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ			4750			7	10
MFLAHA.AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ			4751			7	10
MFKAHA.AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated tv			4750			7	10
MFKAMA.AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated tv			4751			7	10
MFMAFA.AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz			1125			7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,			4225			7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone			2715			7	10

This is a string that represents the engineering contractor's commodity code, if different from the client's commodity code.

Size Range & Multi-size Option

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultiSizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA.AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ	4750					7	10
MFLAHA.AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ	4751					7	10
MFKAHA.AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated tv	4750					7	10
MFKAMA.AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated tv	4751					7	10
MFMAFA.AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz	1125					7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,	4225					7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone	2715					7	10

If the material control data properties may vary with size, then you should use these size ranges.

Industry Commodity Code

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA,AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ	4750					7	10
MFLAHA,AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ	4751					7	10
MFKAHA,AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated tv	4750					7	10
MFKAMA,AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated tv	4751					7	10
MFMAFA,AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz	1125					7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,	4225					7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone	2715					7	10

This is an optional string that represents the industry commodity code, if different from the engineering contractor's commodity code. This is the commodity code that is intended to be used to access the Piping Catalog, when the Industry Commodity code option for the Piping Specification has been enabled.

Client Commodity Code

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA.AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ	4750					7	10
MFLAHA.AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ	4751					7	10
MFKAHA.AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated tv	4750					7	10
MFKAMA.AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated tv	4751					7	10
MFMAFA.AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz	1125					7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,	4225					7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone	2715					7	10

This is an optional string that represents the client's commodity code, if different from the engineering contractor's commodity code. This is the commodity code that is intended to be used during the operations and maintenance phase.

Short Material Description

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA,AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ	4750					7	10
MFLAHA,AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ	4751					7	10
MFKAHA,AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated ty	4750					7	10
MFKAMA,AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated ty	4751					7	10
MFMAFA,AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz	1125					7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE w/valve,	4225					7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone	2715					7	10

This is a string that represents the material description to be used for the bill-of-materials on the isometric drawing, reporting, and visual feedback to the piping designer for design, construction, and fabrication.

Long Material Description

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA.AZZAKQZZZEXUM											Monitor, CL150 FFFE, station type			4750			7	10
MFLAHA.AZZAKRZZZEYUM											Monitor, CL150 FFFE, station type			4751			7	10
MFKAHA.AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated ty			4750			7	10
MFKAMA.AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated ty			4751			7	10
MFMAFA.AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, " size			1125			7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/w valve,			4225			7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone			2715			7	10

This is a string that represents the material description to be used for requisitioning.

Geometric Industry Standard

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA.AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ			4750			7	10
MFLAHA.AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ			4751			7	10
MFKAHA.AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated ty			4750			7	10
MFKAMA.AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated ty			4751			7	10
MFMAFA.AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz			1125			7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,			4225			7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone			2715			7	10

This is an enumerated value that represents the source, normally either an industry standard or a manufacturer, used in the preparation of the catalog data applicable to the piping commodity.

Vendor

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA.AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ	4750					7	10
MFLAHA.AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ	4751					7	10
MFKAHA.AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated tv	4750					7	10
MFKAMA.AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated tv	4751					7	10
MFMAFA.AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz	1125					7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,	4225					7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone	2715					7	10

This is an enumerated value that represents the vendor that is supplying the piping commodity.

Manufacturer

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultisizeOption	IndustryCommodityCode	ClientCommodityCode	CIMISCommodityCode	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility
MFLAHA,AZZAKQZZZEXUM											Monitor, CL150 FFFE, station typ	4750					7	10
MFLAHA,AZZAKRZZZEYUM											Monitor, CL150 FFFE, station typ	4751					7	10
MFKAHA,AZZAKQZZZZZUM											Monitor, CL150 FFFE, elevated tv	4750					7	10
MFKAMA,AZZAKRZZZZZUM											Monitor, CL300 FFFE, elevated tv	4751					7	10
MFMAFA,AZZAEEAAMZZUM											Fire hydrant, CL125 FFFE, 5" siz	1125					7	10
MFOAMBUZZAJPZZZEZUS											Hose rack, 300#, FTE, w/valve,	4225					7	10
MFQZZBNZZAGXZZZZZUM											Spray sprinkler, MTE, filled cone	2715					7	10

This is an enumerated value that represents the manufacturer of the piping commodity. This property is considered to be optional data, and is intended to be used in the situation where the Geometric Industry Standard identifies the industry standard, but the spec writer has a requirement to track the manufacturer for reporting purposes.

Fabrication Type

FabricationType	SupplyResponsibility	ReportingType	Quantity	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodityCode	SubstCapScrewDiameter	TappedHoleDepth	MultiportValveOpReq	ValveOperatorType	ValveOperatorGeoIndStd	ValveOperatorCatalogPartNumber	ReportableCommodityCode	PartDataSource	AltOrientationCommodityCode	HyperlinkToElectronicVendor	HyperlinkToElectronicManuals	PipingNote1	VendorPartNumber	ManufacturerPartNumber
7	10	5	1	5	5	50							3	1190	GAT-Bolted-150-3								
7	10	5	1	5	5	50							331	1190	VAAAHABAHADJADACFZZUS								
7	10	5	1	5	5	50							331	1250	VAAAHABAHADJADAHIZZUS								

FabricationType ShortDescription	FabricationType LongDescription	Codelist Number
		1
Undefined	Undefined	1
		5
SF	Shop fabricated	15
		10
CF	Contractor field fabricated	7
OF	Owner field fabricated	20
		15
SFFW	Shop fabricated, field welded	30

This is an enumerated value that represents the responsibility for fabrication or erection.

Supply Responsibility

FabricationType	SupplyResponsibility	ReportingType	Quantity	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodityCode	SubstCapScrewDiameter	TappedHoleDepth	MultiportValveOpReq	ValveOperatorType	ValveOperatorGeoIndStd	ValveOperatorCatalogPartNumber	ReportableCommodityCode	PartDataSource	AltOrientationCommodityCode	HyperlinkToElectronicVendor	HyperlinkToElectronicManuals	PipingNote1	VendorPartNumber	ManufacturerPartNumber
	10	5	1	5	5	50							3	1190	GAT-Bolted-150-3								
	10	5	1	5	5	50							331	1190	VAAAHABAHADJADACFZZUS								
	10	5	1	5	5	50							331	1250	VAAAHABAHADJADAHIZZUS								

	B	D
2	SupplyResponsibility	Codelist
3	ShortDescription	Number
4	Undefined	1
5	Contractor	2
6	Owner	3
7	Equipment Vendor	9
8	Vendor	10
9	Piping	15
10	Instruments	16
11	Fabrication Shop	20
12	Others	25

This is an enumerated value that represents the responsibility for supply.

Reporting Type

FabricationType	SupplyResponsibility	ReportingType	Quantity	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodityCode	SubstCapScrewDiameter	TappedHoleDepth	MultiportValveOpReq	ValveOperatorType	ValveOperatorGeoIndStd	ValveOperatorCatalogPartNumber	ReportableCommodityCode	PartDataSource	AltOrientationCommodityCode	HyperlinkToElectronicVendor	HyperlinkToElectronicManuals	PipingNote1	VendorPartNumber	ManufacturerPartNumber
7	10	5	1	5	5	50							3	1190	GAT-Bolted-150-3								
7	10	5	1	5	5	50							331	1190	VAAAHABAHADJADACFZZUS								
7	10	5	1	5	5	50							331	1250	VAAAHABAHADJADAHIZZUS								

	D	F
1		
2	ReportingType ShortDescription	Codelist Number
3		
4		1
5	Undefined	1
6		2
7	No-MTO	2
8	As-built	3
9		5
10	Included in Material Control System	5
11	Excluded from Material Control System	10

This is an enumerated value that represents the requirements for reporting of the piping commodity from the 3D model. This is intended to address the requirement to define no-MTO items, which are to be ignored in terms of creating reports for procurement purposes

Gasket Requirements

FabricationType	SupplyResponsibility	ReportingType	Quantity	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodityCode	SubstCapScrewDiameter	TappedHoleDepth	MultiportValveOpReq
7	10	5	1	5	5	50						
7	10	5	1	5	5	50						
7	10	5	1	5	5	50						

B	D
GasketRequirements ShortDescription	Codelist Number
<i>This is a system codelist. The user may change the textual v</i>	
2	
3	
4	
5	Undefined
6	Gaskets at bolted ends
7	Integral gaskets
8	Gaskets included
9	Gaskets not applicable
10	Clamp gaskets based on two mechanical end preps
11	Clamp gaskets based on mechanical hub end
12	Clamp gaskets which are separately ordered
13	Clamp gaskets where included with the clamp
14	Integral gasket override enabled
15	Integral gasket requiring another lined flange surface
16	Integral gasket requiring another lined flange surface
17	override enabled
18	Gasket not required due to metal-to-metal seal
19	Gasket supplied with fitting

This is an enumerated value that represents the requirements for any gaskets with the piping commodity, if one or more bolted ends apply.

Bolt Requirements

FabricationType	SupplyResponsibility	ReportingType	Quantity	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodityCode	SubstCapScrewDiameter	TappedHoleDepth	MultiportValveOpReq	ValveOperatorType	Item	PartNumber	Code	CommodityCode	Vendor	Manuals	Other
7	10	5	1	5	5	50							3	10						
7	10	5	1	5	5	50							331	11						
7	10	5	1	5	5	50							331	12						

Item	ShortDescription	Code
2	BoltingRequirements	
5	Undefined	1
6	Reportable bolts required	5
7	Complete cap screw substitution for threaded holes	10
8	Complete cap screw substitution for tapped holes	15
9	Partial cap screw substitution for threaded holes	20
10	Partial cap screw substitution for tapped holes	25
11	Bolts included	30
12	Bolts not applicable	35
13	Complete cap screw substitution for threaded holes for second size end	40
14	Complete cap screw substitution for tapped holes for second size end	45
15	Partial cap screw substitution for threaded holes for second size end	50
16	Partial cap screw substitution for tapped holes for second size end	55

Navigation: BoltingRequirements / BoltType / BranchReportingOwn

This is an enumerated value that represents the requirements for any bolts with the piping commodity, if one or more bolted ends apply.

Weld Requirements

FabricationType	SupplyResponsibility	ReportingType	Quantity	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodityCode	SubstCapScrewDiameter	TappedHoleDepth	MultiportValveOpReq	Std	PartNumber	yCode	dityCode	Vendor	Manuals	ber
7	10	5	1	5	\$	50							1						
7	10	5	1	5	\$	50							2	WeldingRequirement					Codelist
7	10	5	1	5	\$	50							3	ShortDescription					Number
													4	This is a system codelist. The user may change the text					
													5	Weld at each welded end					5
													6	Additional weld at flange face					10
													7	Optional additional weld at flange face					15
													8	No welds required					50
7	10	5	1	5	\$	50							9						

This is an enumerated value that represents the requirements for any welds with the piping commodity, if one or more welded ends apply.

Part Data - Catalog

- Part data stores information about the dimensional details of each component.
- Piping commodity part data is required to be defined by the spec writer on the basis of the commodity code and the nominal piping diameters for each end of the component. This data addresses piping commodities, stock piping specialties and stock instruments.

Pipe Stock

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
3	Definition	PartClassType																						
4																								
5		PipeStockClass																						
7	CommodityPart																							
8	Head	IndustryCommodityCode	FirstSizeSchedule	CommodityType	GraphicalRepresentationOrNot	MaterialGrade	Density	WeightPerUnitLength	PurchaseLength	MinimumPipeLength	MaximumPipeLength	LiningMaterial	EndPreparation[1]	PressureRating[1]	EndStandard[1]	ScheduleThickness[1]	EndPreparation[2]	PressureRating[2]	EndStandard[2]	ScheduleThickness[2]	Npd[1]:Primary	NpdUnitType[1]	Npd[2]:Secondary	NpdUnitType[2]
9																								
86		PAAAAWAAA	S-40	PIPE		142	490lbm/ft^3	20ft					301		5	S-40	301		5	S-40	20	in	20	in
87																					24	in	24	in
88		S-XS																						
89		PAAAAWAAA	S-XS	PIPE		142	490lbm/ft^3	20ft					301		5	S-XS	301		5	S-XS	14	in	14	in
90																					16	in	16	in
91																					18	in	18	in
92																					20	in	20	in

The pipestock sheet specifies the details of each of the pipe used along with its dimensional details and weights. Note that there is no symbol definition for Pipe

Part Class definition

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
2	Definition	PartClassType	SymbolDefinition	OA:InsulationThickness															
3																			
4		PipeComponentClass	SP3DWNFlange.CWNFlange																
5																			
6	CommodityPart																		
7	Head	IndustryCommodityCode	FirstSizeSchedule	SecondSizeSchedule	CommodityType	GraphicalRepresentationOrNot	SymbolDefinition	MaterialGrade	LiningMaterial	BendAngle	BendRadius	BendRadiusMultiplier	DryCogX	DryCogY	DryCogZ	WaterWeight	WaterCogX	WaterCogY	WaterCogZ
37		FAAABAWAAA		S-STD	FWN			150					0	0	0		0	0	0
38																			
39																			
40																			
41																			
42																			

The definitions of the part are made at the top of Excel sheet under heading **Definition**. The symbol name for component is defined in field C4 below the Key Word **SymbolDefinition**. The next column defines the Occurrence Attribute identified by “OA:” The attribute defined is **Insulation Thickness**

RDB Changes

Changing dimension data on the part

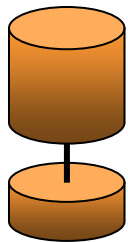
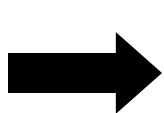
Changing the fabrication category

Changing the symbol definition

Deleting a part

Delete a piping material class

Bulkload utility



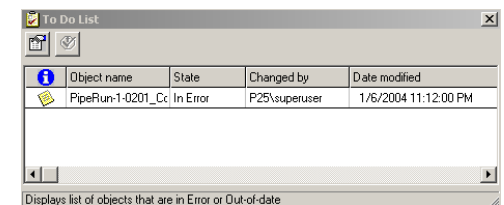
Catalog



**Synchronize model
with catalog cmd**



Model

Object name	State	Changed by	Date modified
PipeRun-1-0201_Cc	In Error	P25\superuser	1/6/2004 11:12:00 PM

Displays list of objects that are in Error or Out-of-date

TO Do List