

SP3D PIPING DATA STRUCTURES

PIPELINE

The dialog box titled "Select Properties" is used to configure property identification for the "Pipelines" object type. It includes dropdown menus for "Object type", "Relationship", "Related object type", and "Display properties in this category". Below these is a table of available properties with checkboxes for selection. The "Name" property is highlighted in the original image.

Object type used as the basis for the property identification :

Pipelines

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Standard

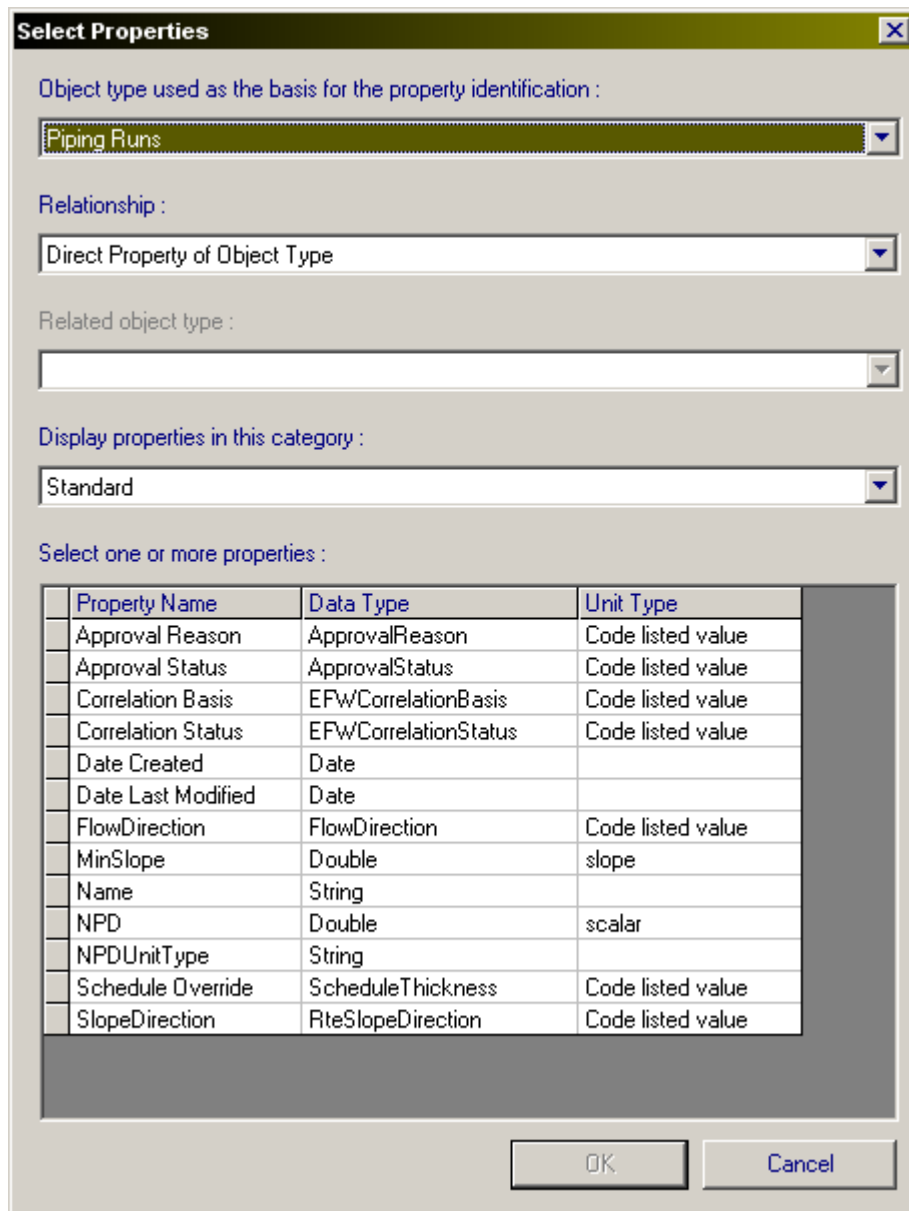
Select one or more properties :

Property Name	Data Type	Unit Type
Approval Reason	ApprovalReason	Code listed value
Approval Status	ApprovalStatus	Code listed value
Correlation Basis	EPWCorrelationBasis	Code listed value
Correlation Status	EPWCorrelationStatus	Code listed value
Date Created	Date	
Date Last Modified	Date	
Description	String	
Fluid Requirement	FluidSystem	Code listed value
Fluid Type	FluidCode	Code listed value
Name	String	
Sequence Number	String	

OK Cancel

The "Name" attribute can be typed in by user or made up by rule using an automatic concatenation of attributes such as fluid type (fluid code) and sequence number. An area or unit name attribute could be added.

PIPERUN/standard attributes



The dialog box titled "Select Properties" is used to configure property selection for "Piping Runs". It includes dropdown menus for "Object type", "Relationship", "Related object type", and "Display properties in this category". A table lists available properties with their data and unit types. At the bottom are "OK" and "Cancel" buttons.

Object type used as the basis for the property identification :

Piping Runs

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Standard

Select one or more properties :

Property Name	Data Type	Unit Type
Approval Reason	ApprovalReason	Code listed value
Approval Status	ApprovalStatus	Code listed value
Correlation Basis	EFw/CorrelationBasis	Code listed value
Correlation Status	EFw/CorrelationStatus	Code listed value
Date Created	Date	
Date Last Modified	Date	
FlowDirection	FlowDirection	Code listed value
MinSlope	Double	slope
Name	String	
NPD	Double	scalar
NPDUnitType	String	
Schedule Override	ScheduleThickness	Code listed value
SlopeDirection	RteSlopeDirection	Code listed value

OK Cancel

The “Name” attribute can be manually typed by a designer or automatically generated by a rule and the name generator. The rule concatenates any of these attributes and the name generator server creates a unique sequence number. This number is unique regardless of the number of users working in the same area at the same time, since it’s generated from a central location. If manually typed in, then Name uniqueness across piperuns is not checked by SP3D. Additional property categories for piperuns follow.

PIPERUN/responsibility

Select Properties [X]

Object type used as the basis for the property identification :

Piping Runs

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Responsibility

Select one or more properties :

Property Name	Data Type	Unit Type
Cleaning Responsibility	CleaningResponsibility	Code listed value
Design Responsibility	DesignResponsibility	Code listed value
Fabrication Responsibility	FabricationResponsibility	Code listed value
Installation Responsibility	InstallationResponsibility	Code listed value
Painting Responsibility	PaintingResponsibility	Code listed value
Requisition Responsibility	RequisitionResponsibility	Code listed value
Supply Responsibility	SupplyResponsibility	Code listed value
Testing Responsibility	TestingResponsibility	Code listed value

OK Cancel

PIPERUN/testing

Select Properties

Object type used as the basis for the property identification :

Piping Runs

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Testing

Select one or more properties :

Property Name	Data Type	Unit Type
Testing Percentage	Float	
Testing Requirement	TestingRequirements	Code listed value
Testing Type	TestingType	Code listed value

OK

Cancel

PIPERUNS/surface treatment and coating

Select Properties

Object type used as the basis for the property identification :

Piping Runs

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Surface Treatment and Coating

Select one or more properties :

Property Name	Data Type	Unit Type
Auxiliary Treatment Requirement	AuxiliaryTreatmentRequirei	Code listed value
Auxiliary Treatment Type	AuxiliaryTreatment	Code listed value
Cleaning Requirement	CleaningRequirement	Code listed value
Coating Color	CoatingColor	Code listed value
Exterior Coating Area	Double	area
Exterior Coating Requirement	CoatingRequirement	Code listed value
Exterior Coating Type	CoatingType	Code listed value
Exterior Surface Treatment Require	ExteriorSurfaceTreatmentF	Code listed value
Exterior Surface Treatment Type	ExteriorSurfaceTreatment	Code listed value
Interior Coating Area	Double	area
Interior Coating Requirement	CoatingRequirement	Code listed value
Interior Coating Type	CoatingType	Code listed value
Interior Surface Treatment Require	InteriorSurfaceTreatmentR	Code listed value
Interior Surface Treatment Type	InteriorSurfaceTreatment	Code listed value
Steamout Pressure	Double	force per area
Steamout Requirement	SteamoutRequirement	Code listed value
Steamout Temperature	Double	temperature

OK

Cancel

PIPERUN/temp & pressure

Select Properties [X]

Object type used as the basis for the property identification :

Piping Runs

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Temperature and Pressure

Select one or more properties :

Property Name	Data Type	Unit Type
Design Maximum Pressure	Double	force per area
Design Maximum Temperature	Double	temperature
Design Minimum Pressure	Double	force per area
Design Minimum Temperature	Double	temperature
Operating Maximum Pressure	Double	force per area
Operating Maximum Temperature	Double	temperature
Operating Minimum Pressure	Double	force per area
Operating Minimum Temperature	Double	temperature
Testing Maximum Pressure	Double	force per area
Testing Maximum Temperature	Double	temperature
Testing Minimum Pressure	Double	force per area
Testing Minimum Temperature	Double	temperature

OK Cancel

PIPERUN/insulation & tracing

Select Properties ✕

Object type used as the basis for the property identification :

Piping Runs

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Insulation and Tracing

Select one or more properties :

Property Name	Data Type	Unit Type
Heat Tracing Medium	HeatTracingMedium	Code listed value
Heat Tracing Medium Temperature	Double	temperature
Heat Tracing Requirement	HeatTracingRequirement	Code listed value
Heat Tracing Type	HeatTracingType	Code listed value
Insulation Material	InsulationMaterial	Code listed value
Insulation Purpose	InsulationPurpose	Code listed value
Insulation Thickness	Double	distance
InsulationTemperature	Double	temperature

OK

Cancel

WORK BREAKDOWN STRUCTURE (WBS)/WBS project

Select Properties [X]

Object type used as the basis for the property identification :

WBS Projects

Relationship :

Direct Property of Object Type

Related object type :

Display properties in this category :

Standard

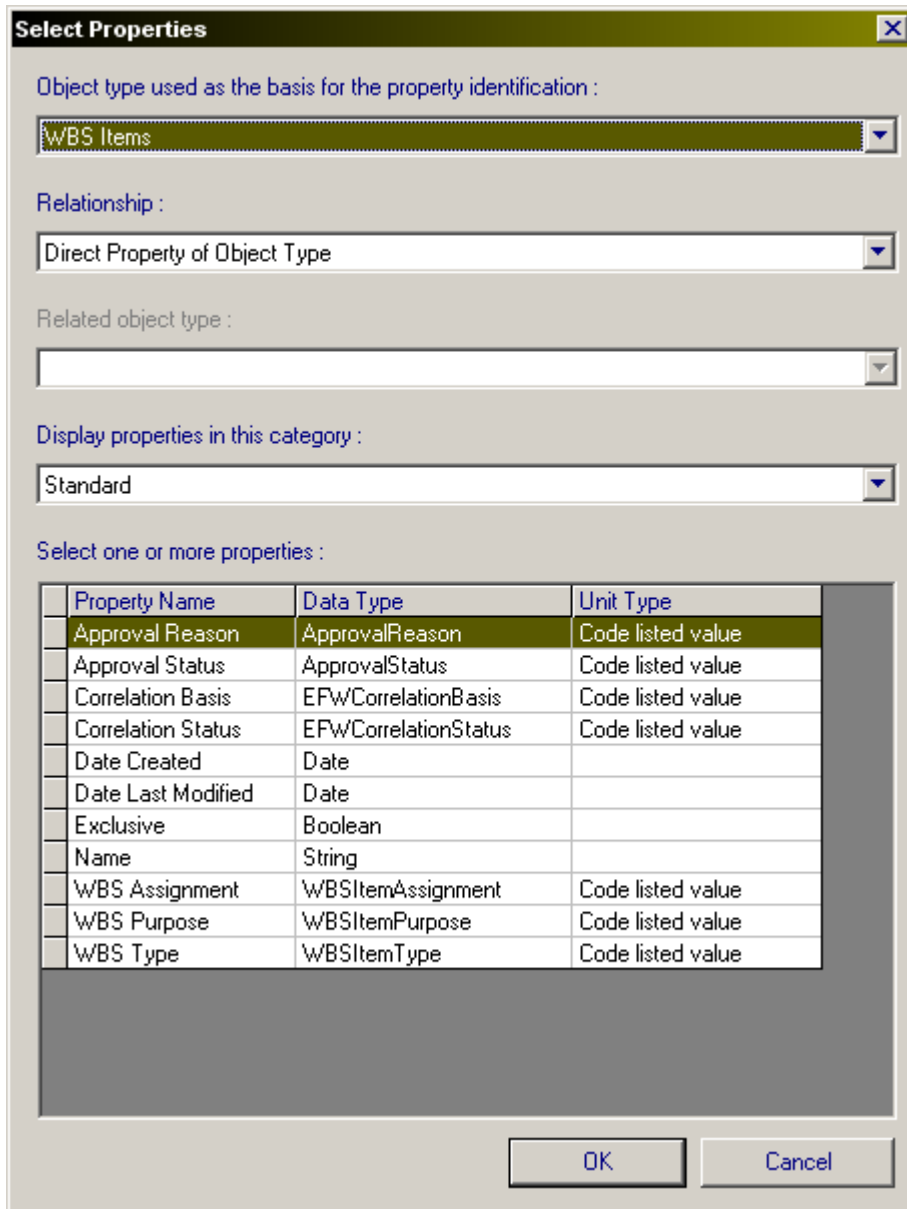
Select one or more properties :

Property Name	Data Type	Unit Type
Approval Reason	ApprovalReason	Code listed value
Approval Status	ApprovalStatus	Code listed value
Correlation Basis	EFW/CorrelationBasis	Code listed value
Correlation Status	EFW/CorrelationStatus	Code listed value
Date Created	Date	
Date Last Modified	Date	
Name	String	
Project Purpose	WBSProjectPurpose	Code listed value
Project Status	WBSProjectStatus	Code listed value

OK Cancel

The WBS project will hold WBS packages which are useful for grouping items for reporting, drawing extraction, graphic display, etc.

WBS/WBS items



The dialog box titled "Select Properties" has a close button (X) in the top right corner. It contains several sections:

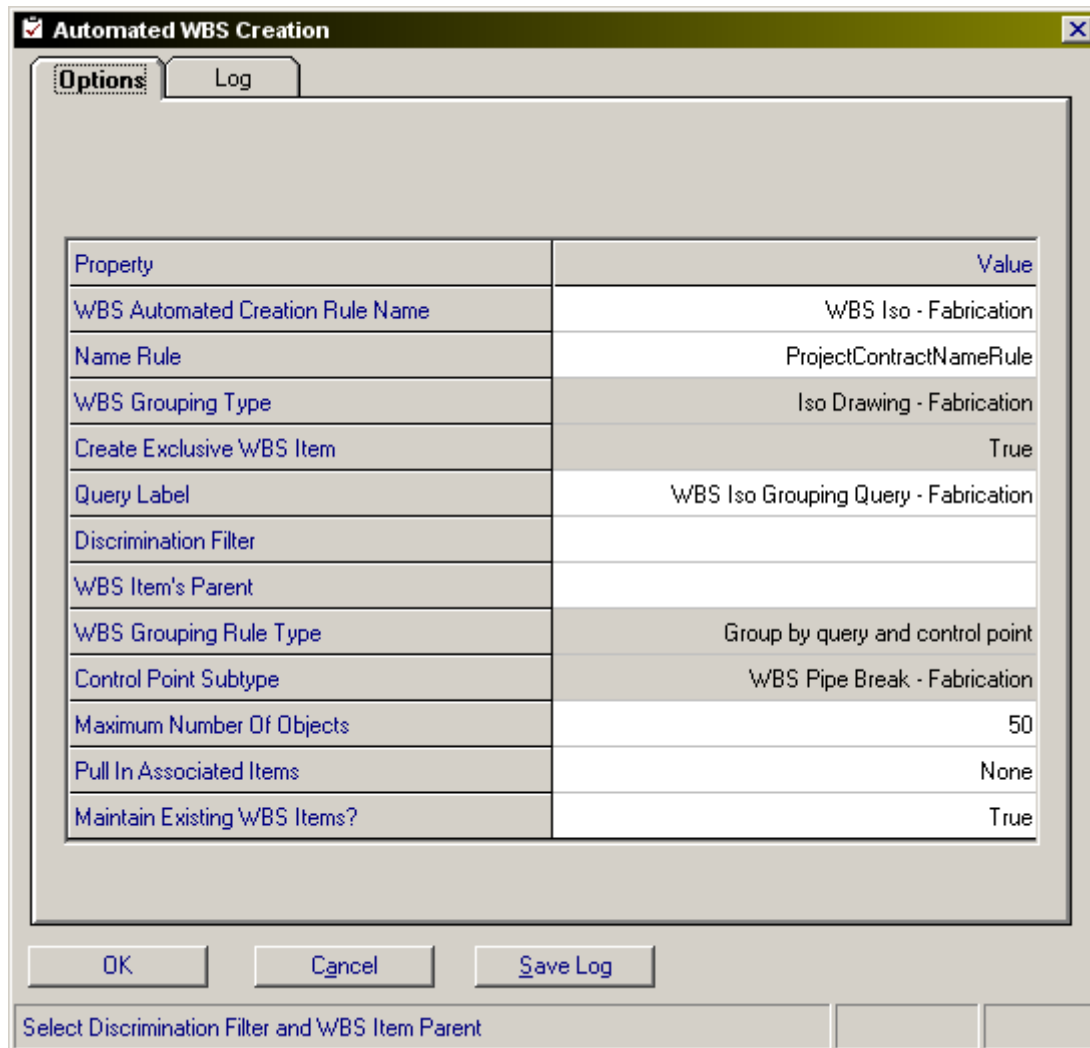
- Object type used as the basis for the property identification :** A dropdown menu with "WBS Items" selected.
- Relationship :** A dropdown menu with "Direct Property of Object Type" selected.
- Related object type :** An empty dropdown menu.
- Display properties in this category :** A dropdown menu with "Standard" selected.
- Select one or more properties :** A table with three columns: Property Name, Data Type, and Unit Type.

Property Name	Data Type	Unit Type
Approval Reason	ApprovalReason	Code listed value
Approval Status	ApprovalStatus	Code listed value
Correlation Basis	EFWCorrelationBasis	Code listed value
Correlation Status	EFWCorrelationStatus	Code listed value
Date Created	Date	
Date Last Modified	Date	
Exclusive	Boolean	
Name	String	
WBS Assignment	WBSItemAssignment	Code listed value
WBS Purpose	WBSItemPurpose	Code listed value
WBS Type	WBSItemType	Code listed value

At the bottom of the dialog are "OK" and "Cancel" buttons.

WBS items serve for packaging or grouping together related or unrelated items for future manipulations. The most typical example is isometric drawings extraction. Integraph does not provide much flexibility in choosing a line attribute or attributes to extract isos by. They can only be extracted by pipeline, piperun, spool or WBS (there are of course stress isos). Ingr encourages the use of WBS packaging for batch iso extraction type of function. The equivalent of bulkloading lines for batch iso extraction is the loading of lines to WBS package (interface shown below). This was used for Cliffside project with SP3D V7. Somewhat problematic at times but eventually got all iso drawings out. It would

expedite extractions if we could skip this WBS packaging step, but there aren't many options as mentioned above.



The image shows a software dialog box titled "Automated WBS Creation". It has two tabs: "Options" (selected) and "Log". The "Options" tab contains a table with 13 rows of configuration settings. At the bottom of the dialog are three buttons: "OK", "Cancel", and "Save Log". Below the buttons is a text label "Select Discrimination Filter and WBS Item Parent" followed by two empty input fields.

Property	Value
WBS Automated Creation Rule Name	WBS Iso - Fabrication
Name Rule	ProjectContractNameRule
WBS Grouping Type	Iso Drawing - Fabrication
Create Exclusive WBS Item	True
Query Label	WBS Iso Grouping Query - Fabrication
Discrimination Filter	
WBS Item's Parent	
WBS Grouping Rule Type	Group by query and control point
Control Point Subtype	WBS Pipe Break - Fabrication
Maximum Number Of Objects	50
Pull In Associated Items	None
Maintain Existing WBS Items?	True

OK Cancel Save Log

Select Discrimination Filter and WBS Item Parent