E3D Piping Operation in Project Execution

AVEVA Everything 3D Piping Administration Automation

Presented by H.S.KIM

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Agenda

Introduction - SC (Spec Converter) SmartAdmin[™] – SM (Spec Manager) **Demo Images** SmartModel[™] – IG (ISOGEN) SmartAdmin[™] – MTO (Material Take Off) SmartAdmin[™] – LM (License Monitor) SmartModel[™] – AI (Attribute Import) SmartModel[™] – REPORT



Introduction

AVEVA Everything 3D Piping Administration Automation



What we get from 3D system

- 3D model review
- Clash(Interference) check
- Piping isometric drawing generation
- Material take off (piping)
- Layout drawing generation
- Material take off (other discipline)
- Construction Management
- Others



Efficient operation with minimal effort

- Standardized Procedure (administration, modeling, ...)
- Professional Operation Staff
- Efficient Program



Standardization

- Clearly-Defined Modeling Scope.
- Consistent Administration Method.
- Consistent Modeling Hierarchy & Name Rule
- Consistent Modeling Method for Same Modeling Item.
- Well-Organized Master Database (Catalogue & Dictionary)
- Standardized Operation.



3D Admin Workflow for Piping Department

- Piping Catalogue Management
- Modeling Specification Management
- Modeling Rule Define (Hierarchy & Name)
- Isometric Drawing Setup
- Material Take Off



3D Admin Workflow for Piping Department

- Piping Catalogue Management
 > Initial piping catalogue
- Modeling Specification Management
 - > SmartAdmin[™] SC (Specification Converter)
 - > SmartAdmin[™] SM(Specification Manager)
- Modeling Rule Define (Hierarchy & Name)
- Isometric Drawing Setup
 > SmartModel[™] IG (IsoGen)
- Material Take Off
 - > SmartAdmin[™] MTO (Material Take Off)



SmartAdmin[™] – SC (Specification Converter)

AVEVA Everything 3D Piping Admin. Automation



SmartAdmin[™] – SC (Specification Converter)

- Convert Piping Material Specification files in various formats to standardized text format.
- It should contain enough content to create an E3D piping modeling specification.

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AMR62 BLIND FLANGE	BF	0.75	0	0	FBAC501BB	FBAC5O1BB000G	BLIND FLANGE 300 LB A182-F316/316L RF STABILIZED, 125-250 AARH ASME B16.5: A.	. 🗆 🗆		
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AMR62 BLIND FLANGE	BF	1.25	0	0	FBAC501BB	FBAC501BB001B	BLIND FLANGE 300 LB A182-F316/316L RF STABILIZED, 125-250 AARH ASME B16.5: A.			
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147	E4	K4AA2N1L0		K4AA2N1L0000G 3/4
148	45	ELBOW(LR) CL 3000 A105N	SW	ASME B16.11 (for LUMMUS SPEC)
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152	45	ELBOW(LR) CL 3000 A105N	SW	ASME B16.11 (for LUMMUS SPEC)
153	E4	K4AA2N1L0		K4AA2N1L0001E 1.1/2
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156	45	ELBOW(LR) SMLS A234-WPB	BW	ASME B16.9 (for LUMMUS SPEC) STD
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162	45	ELBOW(LR) SMLS A234-WPB	BW	ASME B16.9 (for LUMMUS SPEC) STD
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164	45	ELBOW(LR) SMLS A234-WPB	BW	ASME B16.9 (for LUMMUS SPEC) STD
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166	45	ELBOW(LR) SMLS A234-WPB	BW	ASME B16.9 (for LUMMUS SPEC) STD
167	24	VANDEDOTEND		VANDEDOLENDAE E

SmartAdmin[™] – SM (Specification Manager)

AVEVA Everything 3D Piping Admin. Automation



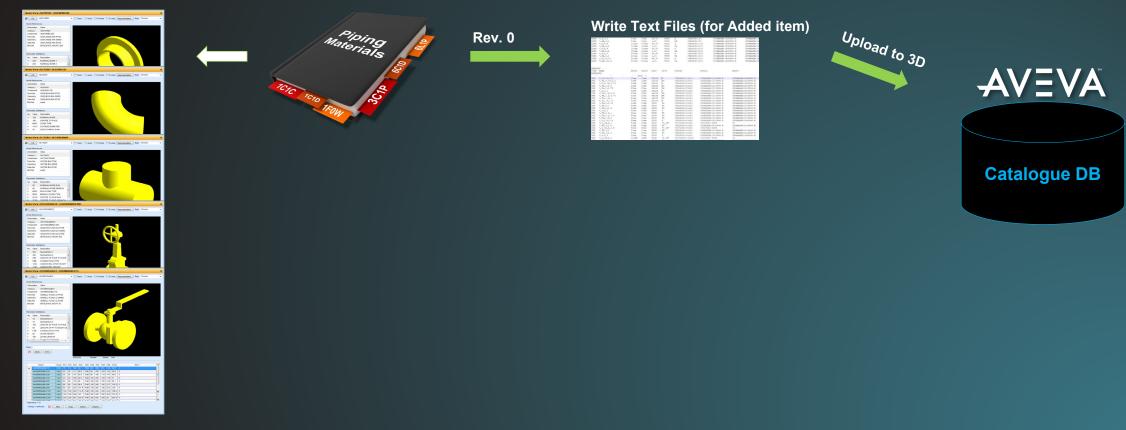
SmartAdmin[™] - SM Main Function

- Piping 3D modeling specification Automatic Creation
- Piping material description library Automatic Creation
- Bolt length table / Bolt-list table Automatic Creation
- Piping itemcode (commodity / ident) Automatic import
- Automatic Comparison of added/modified/deleted items for revised piping specification
- Effective 3D Catalog shape selection for each piping item
- Fast processing speed (less than 10 min. based on 65,000 piping specification items, including comparison, creation and modification)



AVEVA Typical workflow for 3D specification (Rev. 0)

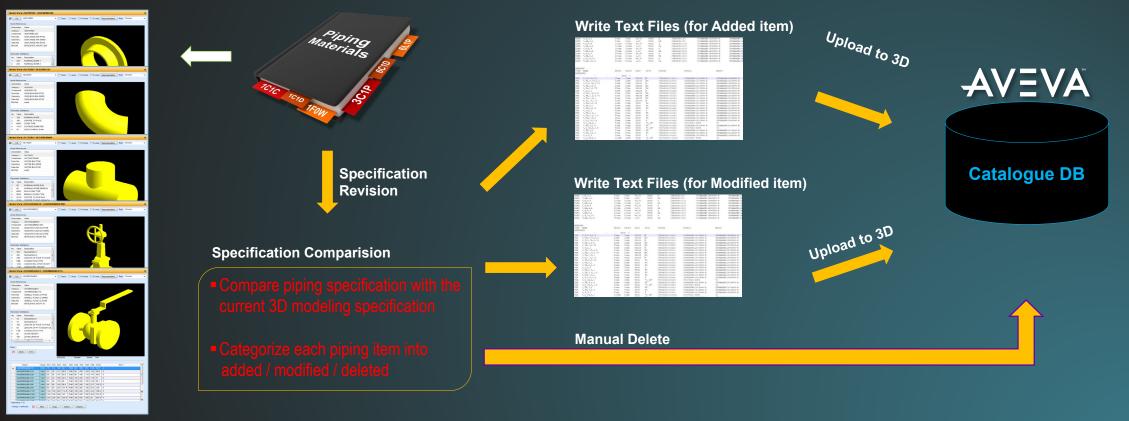
3D Catalog Preparation





AVEVA Typical workflow for 3D specification (Rev. 1 ~)

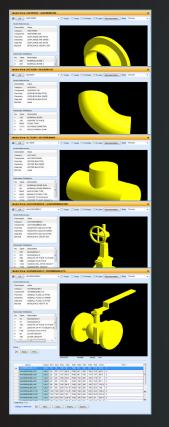
3D Catalog Preparation

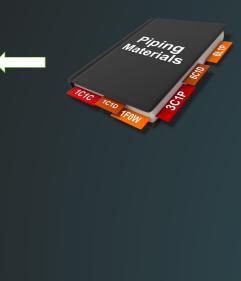




SmartAdmin[™] - SM workflow for 3D specification

3D Catalog Preparation

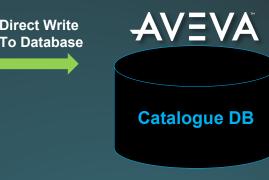






Revision

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TabeModified	1500	850	1		RED. REDFORCES FAD ELLIPTICAL TYPE EPW A312-19304 SOLIDS 90 DEG.	
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TabeModified	1500	850	5-		RED. REINFORCING FAD BLUFFECAL TYPE BW A312 19304 50405 90 DEG.	



- Automatic Comparison between current 3D modeling specification & piping material specification
- Categorize comparison results to show users what actions to take place. (Comparison results can be created as an excel file)
- Direct 3D database manipulation without intermediate text file creation
- Modifications can be reverted to before modification using the AVEVA basic function



Benefits of SmartAdmin[™] - SM

- Accelerate the initial schedule by creating the piping 3D modeling specification early in the project without delay.
- Eliminate BOM errors caused by human input errors (item code, description)
- Avoid different specification writing methods based on the habits of each Admin,
 Use a quick and standardized specification writing method.
- Save 3D Administration M/H or OutSourcing Cost.



Demo Images

AVEVA Everything 3D Piping Specification Automation Program



Specification Creation & modification

- Powerful change management capabilities
- Takes only 2 minutes to process over 30,000 specification components

💀 SMART ADMIN - SPE	CIFIATION M	ANAGER				– 🗆 X			
SPECIFICATION	MAP & U	TILITIES	_				φ×	Attributes	
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	e to group a	y chuc column				b the selection of the		Туре	SPCO
						PIPING MATERIAL & Bab SELE AMR62, ELBO, 1		Lock	3FCO
WORKCATEGORY		SHORTCODE	SIZE1		DESCRIPTIO	▲ SELE AMR62,ELBO,1,1	=		AMR62,ELBO,1,1,45,FALSE
ОК	TAAR61	GA	38	38 /VAVGA	BK GATE VALVE	3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OS&Y, GR.OP DESIGN: API600; END: B16.47 SER.A; DIM: B16.10; TEST: API5 📩 💶 🛃 SELE AMR62, ELBO, 1,1,45	_	Owner	
ОК	TAAR61	GA	40			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-FF BB OS&Y, GR.OP DESIGN: API600; END: B16.47 SER.A; DIM: B16.10; TEST: APIS	E	MatPurpose	unset
ОК	TAAR61	GA	42			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OS&Y, GR.OP DESIGN: API600; END: B16.47 SER.A; DIM: B16.10; TEST: API5		Matref	Nulref
CatalogCreationRequi		GA	44			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-FF BB OS&Y, GR.OP DESIGN: APIG00; END: B16.47 SER.A; DIM: B16.10; TEST: APIE		Answer	0.0000
CatalogCreationRequi		GA	46			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OS&Y, GR.OP DESIGN: API600; END: B16.47 SER.A; DIM: B16.10; TEST: API5	E	Maxanswer	0.0000
ОК	TAAR61	GA	48	,		3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-FF BB OS&Y, GR.OP DESIGN: API600; END: B16.47 SER.A; DIM: B16.10; TEST: APIE		Catref	EADC0B0:25
ОК	TAAR61	GA1	2			3 A216-WCB TRIM : 13CR+FHF SOLID-WEDGE TYPE FLG-RF BB OS&Y, HW.OP DESIGN: API600; END: B16.5; DIM: B16.10; TEST: API598		Detref	K4ADSH2BEAH-D
ОК	TAAR61	GA3	3	5 / mon		3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-FF BB OS&Y, HW.OP DESIGN: API600; END: B16.5; DIM: B16.10; TEST: API598		- Matxt	K4ADSH2BEAH-M
ОК	TAAR61	GAC	1/2			3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW BB OS&Y, HW.OP, CSO/CSC DESIGN: API602; END: B16.11; DIM: MFR STD; TEST: API598		Cmpref	Nulref
ОК	TAAR61	GAC	3/4			3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW BB OS&Y, HW.OP, CSO/CSC DESIGN: API602; END: B16.11; DIM: MFR STD; TEST: API598		Bltref	Nulref
OK	TAAR61	GAC	1	1 / 11 0 0 / 1		3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW BB 05&Y, HW.OP, CSO/CSC DESIGN: API602; END: B16.11; DIM: MFR STD; TEST: API598		Prtreference	Nulref
CatalogCreationRequi		GAC	1.1/4			3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW BB OS&Y, HW.OP, CSO/CSC DESIGN: API602; END: B16.11; DIM: MFR STD; TEST: API598		Tmpref	Nulref
ОК	TAAR61	GAC	1.1/2			3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW BB OS&Y, HW.OP, CSO/CSC DESIGN: API602; END: B16.11; DIM: MFR STD; TEST: API598		Pdareference	Nulref
ОК	TAAR61	GAC	2	2 /VAVGA		3 A216-WCB TRIM : 13CR+FHF SOLID-WEDGE TYPE FLG-RF BB 05&Y, HW.OP, CSO/CSC DESIGN: API600; END: B16.5; DIM: B16.10; TEST: API:		Icon	unset
OK	TAAR61	GAC	6	6 /VAVGA		3 A216-WCB TRIM: 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OS&Y, HW.OP, CSO/CSC DESIGN: API600; EHD: B16.10; TEST: A		Tanswer	E4
TobeModified	- TAAR61	GAC	14			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OSRY, GR.OP DESIGN: API600; EIN: B16.5; DIM: B16.10; TEST: API598		Comment	unset
TobeModified	TAAR61	GAC	16			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF 88 OS&Y, GR.OP DESIGN: API600; END: 816.5; DIM: 816.10; TEST: API598		Dpfname	unset
TobeModified	TAAR61	GAC	18			3 A216-4WCB TRIM : 13CR-FHF FLEXIBLE WEDGE TYPE FLG-RF BB OS8V, GR.OP DESIGN: APIGO1; HOL B16.10; TEST: API508		Symgroup	unset
TobeModified	TAAR61	GAC	20			3 A216-4WCB TRIM : 13CR-FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OS8V, GR.OP DESIGN: APIGO1; HONE B16.10; TEST: API598		Symname	unset
TobeModified	TAAR61	GAC	22			3 A216-WCB TRIM : 13CR-HIF FLEXIBLE-WEDGE TYPE FLG-RF BB OS8X / GR-OP DESIGN: APIGOI; FMD: B16.10; TEST: APIS98		SGCSPEC	AMR62
TobeModified	TAAR61 TAAR61	GAC	24			3 A216-WCB TRIM : 13CR+FHF FLEXIBLE-WEDGE TYPE FLG-RF BB OS&Y, GR.OP DESIGN: API600; END: B16.5; DIM: B16.10; TEST: API598		SGCSTYP	E4
OK	TAAR61	GAC	1/2	,				:CMDT	K4ADSH2BEAH
OK	TAAR61	GAD	3/4					IDENT	K4ADSH2BEAH01
OK	TAAR61	GAD	3/4			3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW*SCRD(NPT) BB OS&Y, HW.OP DESIGN: APJ602; END: B16.11, B1.20.1; DIM: MFR STD; TEST b_{Bb}^{*} SELE AMR62,TEE 3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW*SCRD(NPT) BB OS&Y, HW.OP DESIGN: APJ602; END: B16.11, B1.20.1; DIM: MFR STD; TEST b T_{Bb}^{*} SELE AMR62,TUBE SALS TRIM : 13CR+FHF SOLID-WEDGE TYPE SW*SCRD(NPT) BB OS&Y, HW.OP DESIGN: APJ602; END: B16.11, B1.20.1; DIM: MFR STD; TEST b T_{Bb}^{*} SELE AMR62,TUBE SALS TRIM : 13CR+FHF SOLID-WEDGE TYPE SW*SCRD(NPT) BB OS&Y, HW.OP DESIGN: APJ602; END: B16.11, B1.20.1; DIM: MFR STD; TEST b T_{Bb}^{*} SELE AMR62,TUBE SELE AMR64,TUBE SELE AMR64,TUBE		:MR_GROUP	WROUGHT FITTING
CatalogCreationRegui		GAD	1 1/4	- /				:MATLCATEGORY	unset
OK	TAAR61	GAD	1.1/2			000			
OK	TAAR61	GAD	1/2			3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE SW*SCRD(NPT) BB OS&Y, HW.OP DESIGN: APJ602; END: B16.11, B1.20.1; DIM: MFR STD; TEST 3 A105 TRIM : 13CR+FHF SOLID-WEDGE TYPE FLG-RF BB OS&Y, HW.OP DESIGN: APJ602; END: B16.10; TEST: APJ598 A TEXT 1		PWTHICK	0.0000
OK	TAAR61	GAF	3/4			Alto TRIM - I Genther Solar Medice THE FLORE BB OSAT, M. V.O. PESIGN, APRO22, EUL 510-0, JUNE 151-01, TEST, APD30 ALTO TRIM - ALTO ALTO ALTO ALTO ALTO ALTO ALTO ALTO		:PUWEIGHT	0.0000
OK	TAAR61	GAF	- 1			A 105 TRUM - 13CH-FH SOLD WEDGE TYPE FLG-R BB OSAT, MW.OP DESIGN, AP1002; EUL 510-0, DIM: B16-10, TEST, AP538			
Sin .	170 1101	0/11		1 / /////	GATE VALVE				
ALL: 30497 OK: 28	576 Tobe№	lodified : 6 Cat	alogCreat	ionRequired : 1628	CatalogMappingRe	: 25 MoveToLimbo : 262			

Mappings between catalog – material description

Convenient Catalogue mapping task using keyword search

•	SMART ADM	MIN - S	PECIFIATI	ON MANAGER																	-		Х
10	- SPECIF	FICATIO	ON MA	P & UTILITIES																			
6	••••••••••••••••••••••••••••••••••••••	EARCH				ACCESS	COPY UP					DELETE			SORT BY	SORT BY	RE-LOAD	DELETE					
				ASE KEYWORDS			COPTO	to All		EDIT		MAPPING	NAMING	CHILDLESS				UNUSED LIMBO					
			Μ	IAPPING					UPDA	ATE						UTILITIE	S			1	EST		^
Dra	g a column h	header	here to g	roup by that colu	mn																		Q
	CATEGORY	MA	ASTER	COMMODITY	DES	CRIPTION																	
Þ	Modified			FBAC501BB	BLIN	ID FLANGE 30	00 LB A182-	F316/316	5L RF STA	BILIZED, 1	125-250	AARH ASM	IE B16.5: ALI	KALINE / CAU	JSTIC SER	/ICE LS 12	9-30 Part3-1	l / LS 129 Part	01				-
	Defined			FBAC581L4		ID FLANGE 3																	
	Defined			FBAE5A106	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF 125-250	0 AARH A	SME B1	6.47 SR.A 1	Impact test -	50°C									
	Defined			FBAE5A1L4	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF 125-250	0 AARH A	SME B1	6.5 (for LUI	MMUS SPEC)										
	Defined			FBAE5A105	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF 125-250	0 AARH A	SME B1	6.5 Impact	test -50°C										
	Defined			FBAE5A1H9	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF 125-250	0 AARH A	SME B1	6.5 Impact	test -50°C, H	lydrogen Se	rvice								
	Defined			FBAE5A1H5	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF 125-250	0 AARH A	SME B1	6.5, Hydrog	jen Service (Cyclic)									
	Defined			FBAE5A1SJ	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF 125-250	0 AARH A	SME B1	6.5, Sour/H	lydrogen Ser	vice									
	Defined			FBAE5A1H7	BLIN	ID FLANGE 3	00 LB A350-	LF2 CL1 F	RF ASME B	316.48/AS	ME B16	.5, S5 Impa	act test -50°	C, Hydrogen	Service								
	Defined			FBAN5A137	BLIN	ID FLANGE 3	00 LB B462(N08020)	RF 125-25	50 AARH A	ASME B1	16.5											
	Defined			FBAA71137	BLIN	ID FLANGE 6	00 LB A105	RF 125-2	50 AARH A	ASME B16	i.5												
	Defined			FBAA711H1	BLIN	ID FLANGE 6	00 LB A105	RF 125-2	50 AARH A	ASME B16	i.5, Hydi	rogen Servi	ice										
	Defined			FBAG72137	BLIN	ID FLANGE 6	00 LB A182-	F11 CL.2	RF 125-25	50 AARH A	ASME B1	16.5											
	Defined			FBAG721L4	BLIN	ID FLANGE 6	00 LB A182-	F11 CL.2	RF 125-25	50 AARH A	ASME B1	16.5 (for LL	JMMUS SPEC)									
	Defined			FBAC7Q137	BLIN	ID FLANGE 6	00 LB A182-	F304/304	4L RF 125-	-250 AARH	H ASME	B16.5											
	Defined			FBAC7Q1H1	BLIN	ID FLANGE 6	00 LB A182-	F304/304	4L RF 125-	-250 AARH	H ASME	B16.5, Hyd	lrogen Servic	e									-
•																							►
FLA	NGE BLIND B	B16.5 C	L.300 RF																				
	CATE					DESCR	IPTION											G	ТҮР	SKEY	SIZE FROM	SIZE	то
•	/FAJBORD					ASME E	316.5, FLAN	GE, BLIN	D, RF, CL.3	300								FE	BLI	FLBL	1/2	24	
	/FAJBTRD					ASME E	316.5, FLAN	GE, BLIN	D, RF, CL.3	300 - WIT	TH TAP ((OFFSET)						FE	BLI	FLRE	1/2	24	



Material description library creation & modification

Eliminates human error completely. (including symbol key)

🛃 SMART ADMI	N - SPECIFIA	TION MANAGER									- 0	×						
SPECIFIC	CATION I	MAP & UTILITIES																
CATALOG SEA MAPPINGS DATA	ABASE DATA	ABASE KEYWORDS I	DISABLE ACCESS	COPY UP PASTE PASTE MANUAL UP to All to 2 EDIT UPDATE	DATE DELETE SELE		S NAME AN	RT BY RE-LOAD ISWER OPTIONS U	DELETE U		 TEST							
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											FBAA221L0-D							- T
CATEGORY	MASTER	COMMODITY	DESCRIPTION			5. AUXALBUT / CA			110 400 Det 04				~	FBAA221L0-D				
 Modified Defined 		FBAC501BB FBAC581L4		00 LB A182-F316/316L RF STABILIZED, 12 00 LB A182-F347H RF 125-250 AARH ASM		,	AUSTIC SERVICE	: LS 129-30 Part3-1 /	/ LS 129 Part 01	_		SDTE FBAA221L0-D	-	Track CE				*
Defined	+ +	FBAE5A106		00 LB A350-LF2 CL1 RF 125-250 AARH ASM								SDTE FSAA221L0AC-D		Attrib	ute	Ve	lue	
Defined		FBAE5A1L4		00 LB A350-LF2 CL1 RF 125-250 AARH ASI								品 SDTE FWAA221L0AB-D			ute	ve I	100	
Defined		FBAE5A105		00 LB A350-LF2 CL1 RF 125-250 AARH ASI								SDTE FWAA221L0AC-D						
Defined		FBAE5A1H9	BLIND FLANGE 3	00 LB A350-LF2 CL1 RF 125-250 AARH AS	ME B16.5 Impact test -5	0°C, Hydrogen Se	ervice					品 SDTE FBAE2A1L0-D		RefNo		=16485/60572		
Defined		FBAE5A1H5	BLIND FLANGE 3	00 LB A350-LF2 CL1 RF 125-250 AARH ASI	IE B16.5, Hydrogen Sei	vice (Cyclic)						L SDTE FSAE2A1L0AC-D		Name		FBAA221L0-D		
Defined		FBAE5A1SJ		00 LB A350-LF2 CL1 RF 125-250 AARH ASI								SDTE FWAE2A1L0AB-D		Туре		SDTE		
Defined		FBAE5A1H7		00 LB A350-LF2 CL1 RF ASME B16.48/ASM		-50°C, Hydrogen	n Service					SDTE FBAC2Q1L0-D		Lock				
Defined Defined		FBAN5A137 FBAA71137		00 LB B462(N08020) RF 125-250 AARH AS 00 LB A105 RF 125-250 AARH ASME B16.5								SDTE FSAC2Q1L0AH-D		Owner		TASPROJ-SDTE:F		
Defined		FBAA711H1		00 LB A105 RF 125-250 AARH ASME B16.5								000		Skey		FLBL		
Defined		FBAG72137		00 LB A182-F11 CL.2 RF 125-250 AARH AS								SDTE FWAC2Q1L0AF-D	=					
Defined		FBAG721L4	BLIND FLANGE 6	00 LB A182-F11 CL.2 RF 125-250 AARH AS	ME B16.5 (for LUMMUS	SPEC)						SDTE FBAA521L0-D		SkeyScale		100		
Defined		FBAC7Q137	BLIND FLANGE 6	00 LB A182-F304/304L RF 125-250 AARH	ASME B16.5							SDTE FSAA521L0AC-D		MtoLength		0		
Defined		FBAC7Q1H1	BLIND FLANGE 6	00 LB A182-F304/304L RF 125-250 AARH	ASME B16.5, Hydrogen	Service						品 SDTE FWAA521L0A4-D		MtoQuantity		0		
4												SDTE FWAA521L0AB-D		Rtext		BLIND FLANGE 150 LB A105N RF AS	SME B16.5 (for LUMMUS SP	EC)
FLANGE BLIND B1	5.5 CL.300 R	R										SDTE FWAA521L0AC-D		Stext		unset		
CATE			DESCR							/P SKEY		L SDTE FSAG521L0AC-D		Ttext		unset		
/FAJBORD				B16.5, FLANGE, BLIND, RF, CL.300						I FLBL		En SDTE FWAG521L0A7-D						
/FAJBTRD			ASME	B16.5, FLANGE, BLIND, RF, CL.300 - WITH	TAP (OFFSET)				FBLI	I FLRE		SDTE FWAG521L0A8-D		Scode		unset		
												SDTE FWAG521L0AB-D		Cspc		unset		/
												000		Dpfname		unset		
												SDTE FBAG521L0-D				-		
												SDTE FWAG521L0A4-D				-		
												SDTE FWAG521L3AB-D		JU_MD_DETA		-		
												SDTE FBAE5A1L0-D				I		
												品 SDTE FSAE5A1L0AC-D						
												SDTE FWAE5A1L0AB-D						
												SDTE FBAC5Q1L0-D						
												L SDTE FSAC5Q1L0AH-D						
												SDTE FWAC5Q1L0AF-D						

Bolt length table creation & modification

Automatically grouped by material and bolt diameter and sorted by length.

SPEC COMPA CCOMPA Drag a C DES STU STU STU	RE CONVERTER OMPARISON Column header here CRIPTION ID BOLT W/2-NUT ID BOLT W/2-NUT ID BOLT W/2-NUT	MAP & UTI TEXTS BOLIT [SDTE] [I to group by f HEAVY HEX.N HEAVY HEX.N	LITIES I LENGTH BOLT LIST DTAB] [SBOL] TS & BOLTS that column UT A193-BBM CL.2 A	[SPCO] [SPCO] SPECIFICATIO	UPDATE MOVE T LIMBO UPDATE	TO E	ORT KCEL							×
SPEC COMPA CC Drag a C Drag a C Drag a C STU	A B SPEC RE CONVERTER MMPARISON column header here cRIPTION ID BOLT W/2-NUT ID BOLT W/2-NUT ID BOLT W/2-NUT	AB TEXTS BOLT [SDTE] [I TEX to group by f HEAVY HEX.N HEAVY HEX.N	T LENGTH BOLT LIST TAB] [SBOL] TS & BOLTS that column	PIPINGS BOLTS [SPCO] [SPCO] SPECIFICATIO	LIMBO	O EXPO TO E EXPO	ORT KCEL							_
SPEC COMPA CC Drag a C Drag a C DES STU STU	A B SPEC RE CONVERTER OMPARISON column header here CRIPTION JD BOLT W/2-NUT JD BOLT W/2-NUT JD BOLT W/2-NUT	TEXTS BOLT [SDTE] [I TEX to group by 1 HEAVY HEX.N HEAVY HEX.N	T LENGTH BOLT LIST DTAB] [SBOL] TS & BOLTS that column UT A193-B8M CL.2 A	PIPINGS BOLTS [SPCO] [SPCO] SPECIFICATIO	LIMBO	O EXPO TO E EXPO	ORT KCEL							~
SPEC COMPA CC Drag a C Drag a C DES STU STU	SPEC RE CONVERTER OMPARISON COLUMN header here CRIPTION DD BOLT W/2-NUT DD BOLT W/2-NUT DD BOLT W/2-NUT	TEXTS BOLT [SDTE] [I TEX to group by 1 HEAVY HEX.N HEAVY HEX.N	T LENGTH BOLT LIST DTAB] [SBOL] TS & BOLTS that column UT A193-B8M CL.2 A	PIPINGS BOLTS [SPCO] [SPCO] SPECIFICATIO	LIMBO	O EXPO TO E EXPO	ORT KCEL							~
COMPA CC Drag a C DES DES STU STU	RE CONVERTER OMPARISON Column header here CRIPTION ID BOLT W/2-NUT ID BOLT W/2-NUT ID BOLT W/2-NUT	[SDTE] [I TEX to group by f HEAVY HEX.N HEAVY HEX.N	DTAB] [SBOL] TS & BOLTS that column UT A193-B8M CL.2 A	[SPCO] [SPCO] SPECIFICATIO	LIMBO	TO E	XCEL							_
Drag a d DES STU STU STU	OMPARISON column header here cCRIPTION JD BOLT W/2-NUT JD BOLT W/2-NUT JD BOLT W/2-NUT	TEX to group by t HEAVY HEX.N HEAVY HEX.N	TS & BOLTS that column UT A193-B8M CL.2 A	SPECIFICATIO		EXPO								~
Drag a d DES > STU STU STU	COLUMN header here CRIPTION JD BOLT W/2-NUT JD BOLT W/2-NUT JD BOLT W/2-NUT	to group by t HEAVY HEX.N HEAVY HEX.N	that column UT A193-B8M CL.2 A		OFDATE									
DES STU STU STU	CRIPTION ID BOLT W/2-NUT ID BOLT W/2-NUT ID BOLT W/2-NUT	HEAVY HEX.N HEAVY HEX.N	UT A193-B8M CL.2 A	104-8MA R18 2 1/P19										ρ
STU STU	JD BOLT W/2-NUT JD BOLT W/2-NUT JD BOLT W/2-NUT	HEAVY HEX.N		194-8MA R18 2 1/P19										
STU STU	ID BOLT W/2-NUT ID BOLT W/2-NUT	HEAVY HEX.N		194-8MA B18 2 1/B19		DIAME	55	60	65	70	75	80	85	90
STU	ID BOLT W/2-NUT						ERROR:55	B1A1BDBA:60	B1A1BDBA:65	B1A1BDBA:70	B1A1BDBA:75	B1A1BDBA:80	B1A1BDBA:85	B
				194-8MA B18.2.1/B18						ERROR:70	B1A1BDBA:75	B1A1BDBA:80	B1A1BDBA:85	B
STU					.2.2: ALKALINE /									
			UT A193-B7 A194-2H	· · · · ·		1/2	ERROR:55	B1A12206:60	B1A12206:65	B1A12206:70	B1A12206:75	B1A12206:80	B1A12206:85	B
			UT A193-B7 A194-2H	· · · · ·		5/8				ERROR:70	B1A12206:75	B1A12206:80	B1A12206:85	В
			UT A193-B7 A194-2H	· · · · ·		3/4								
			UT A193-B7 A194-2H			7/8								
			UT A193-B7 A194-2H			1								
			UT A193-B7 A194-2H			1.1/8								
			UT A193-B7 A194-2H			1.1/4								
			UT A193-B7 A194-2H			1.1/2								
			UT A193-B7 A194-2H			1.3/4								
			UT A193-B7 A194-2H			1.5/8								
			UT A193-B7 A194-2H			1.7/8								
				B18.2.1/B18.2.2; Ad										
				B18.2.1/B18.2.2; Ad										
				B18.2.1/B18.2.2; Ad										
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				H B18.2.1/B18.2.2; Ad			50000 55							
				H B18.2.1/B18.2.2, Hy		1/2	ERROR:55	B1A122HA:60	B1A122HA:65	B1A122HA:70	B1A122HA:75	B1A122HA:80	B1A122HA:85	В
				H B18.2.1/B18.2.2, Hy		5/8				ERROR:70	B1A122HA:75	B1A122HA:80	B1A122HA:85	B
				H B18.2.1/B18.2.2, Hy		3/4								
				H B18.2.1/B18.2.2, Hy		7/8								
				H B18.2.1/B18.2.2, Hy	-	1								
STU	JD BOLT W/2-NUT	HEAVY HEX.N	UT A193-B7 A194-2H	H B18.2.1/B18.2.2, Hy	drogen Service	1.1/8								

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Bolt list library creation & modification

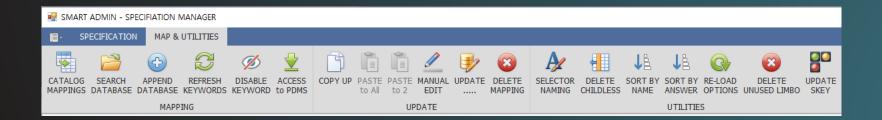
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OK				A12206,U1.5/8			STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2		品。SBOL TASPROJ,B1A11P28,U1.3/8				
ОК		1A12206-BLIS 1A12228-BLIS		A12206,U1.7/8		B1A12206 B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-87 A194-2H B18.2.1/B18.2.2 STUD BOLT W/2-NUT HEAVY HEX.NUT A193-87 A194-2H B18.2.1/B18.2.2: Additional one nut shall be supplied. (3 r	ute fee and halb)	SBOL TASPROJ, B1A11P28, U1.5/8	=			
OK				A12228,02 A12228,U2.1/4		B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B16.2.1/B16.2.2; Additional one nut shall be supplied. (3 r STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r		500 TASPROJ,B1A11P28,U1.7/8				
ок		1A12228-BLIS				B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 F STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 F	· · · ·					
ок				A12228,U1.3/8		B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r		▷ 🔚 BLIS TASPROJ,B1A11PHA-BLIS				
ОК				A12228,U1.1/2		B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r	uts for one bolt)	▲ 品 BLIS TASPROJ,B1A11PHB-BLIS				
ОК	/TASPROJ,B	1A12228-BLIS	/TASPROJ,B1	A12228,U1.5/8	~	B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r	uts for one bolt)	品 SBOL TASPROJ,B1A11PHB,U1.1/2				
ОК	/TASPROJ,B	1A12228-BLIS	/TASPROJ,B1	A12228,U1.7/8	~	B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r	uts for one bolt)	SBOL TASPROJ, B1A11PHB, U1.1/4				
ОК	/TASPROJ,B	1A12228-BLIS	/TASPROJ,B1	A12228,U2.1/2	\checkmark	B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r	uts for one bolt)	品。SBOL TASPROJ,B1A11PHB,U1.3/8				
ОК	/TASPROJ,B	1A12228-BLIS	/TASPROJ,B1	A12228,U2.3/4	\checkmark	B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r		品。SBOL TASPROJ,B1A11PHB,U1.5/8				
ОК		1A12228-BLIS				B1A12228	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2; Additional one nut shall be supplied. (3 r	uts for one bolt)	SBOL TASPROJ,B1A11PHB,U1.7/8				
ОК		1A122HA-BLIS				B1A122HA	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2, Hydrogen Service						
OK		1A122HA-BLIS				B1A122HA	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2, Hydrogen Service		▷ LIS TASPROJ,B1A12206-BLIS				
OK		1A122HA-BLIS				B1A122HA	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2, Hydrogen Service		▷ L BLIS TASPROJ,B1A12207-BLIS				
OK		1A122HA-BLIS 1A122HA-BLIS				B1A122HA B1A122HA	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2, Hydrogen Service STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2, Hydrogen Service		▷ La BLIS TASPROJ,B1A12228-BLIS				
OK				A122HA,U1 A122HA,U1.1/8		B1A122HA B1A122HA	STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B16.2.1/B16.2.2, Hydrogen Service STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H B18.2.1/B18.2.2, Hydrogen Service		▷ 品 BLIS TASPROJ,B1A122BA-BLIS				
1	/ . Abr (03,6		/			STATZENA	ond over the norment head in history history protectly though define	•	▶ 🖁 BLIS TASPROJ,B1A122BB-BLIS				
ALL:171 OK:17	71								▷ LIS TASPROJ,B1A122HA-BLIS				

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Additional Functions

- Customizing keywords for convenient mapping.
- Automatic selection naming
- Remove unnecessary selections
- Sorting specification components by answer
- Deletes unused limbo specification components
- Automatic symbol key input





SmartModel[™] – IG (Isogen)

AVEVA Everything 3D Piping Admin. Automation



SmartModel[™] – IG (isometric generation)

Customizes easily isometric format using xml option.

Supports center alignment of text

Consistency-check within program

PDF/DXF/IDF/PLT file creation

Creating mto-files for the mto-program

ADD PIPES ADD FROM	I FILE REMOVE PIPE	R	ESULT A	LL	
SITE	ZONE	PIPE	SPEC	Rev. By	Ch
PIPING_AAD_NE_(SEPC)	PIPING_AAD_NE_CWS	CWS-383041-TAAR78-N_AAD_NE	TAAR78		-
PIPING_AAD_NE_(SEPC)	PIPING_AAD_NE_CWS	CWS-383043-TAAR78-N_AAD_NE	TAAR78		-
PIPING_AAD_NE_(SEPC)	PIPING_AAD_NE_CWR	CWR-383042-TAAR78-N_AAD_NE	TAAR78		-
PIPING_AAD_NE_(SEPC)	PIPING_AAD_NE_CWR	CWR-383044-TAAR78-N_AAD_NE	TAAR78		-
PIPING_AAD_NE_(SEPC)	PIPING_AAD_NE_MBW	MBW-383008-TAAR61-HA2_AAD_NE	TAAR61		-
PIPING_AAD_NE_(SEPC)	PIPING_AAD_NE_MBW	MBW-383009-TEBJ61-HA2_AAD_NE	TEBJ61		-
<					
FOR ISSUE ISOMETRIC		ISO OPTION STDISO_TAS			~
OUTPUT :#JCNSAPP#JE	ENGISOGEN#TASPROJ	RUN OPTION ALL PIPE	~ ALL		~
PDF DIR. DXF DIR. M			CONSIST	ENCY CHE	
PUP DIR. DAF DIR. M		CREATE DRAWING	CONSISTE		JK
- OUTPUT OPTIONS					
		MATL FILE IDF FILE			

GICNT

SmartAdmin[™] – MTO (Material Take-Off)

AVEVA Everything 3D Piping Admin. Automation



SmartAdmin[™] – MTO (Material Take Off)

- Reads the mto-file generated with the isometric.
- Calculates the total by material & sizes.
- Supports Excel-export.

		IG MATERIAL TAKE OFF						_	_		_	_	- 0	
- PIPIN	IG													
		TO SUM SUM												
		ATA WITH SPEC												
READ		DATA												
ag a column	header here	e to group by that column												
Area	WBS	Pipename	Revision	Sheetno	Classname	Shortcode	Itemcode	Size1	Size2	2 Description	Bo	B Q	uantity	Qt
AAA		AV-301068-AAR61-N AAA L	-1	1			*******	1	2	0 TUBE WELDED AND SEAMLESS WROUGHT STEEL PIPE - ANSI		0	5	м
AAA		AV-301068-AAR61-N AAA L	-1	1				1	2	8 REDUCER ECCENTRIC BUTT WELD - ANSI B16.9 NR BWD		0	1	EA
AAA		AV-301068-AAR61-N_AAA_L	-1	1			*******		8	4 REDUCER ECCENTRIC BUTT WELD - ANSI B16.9 NR BWD		0	1	EA
AAA		AV-301068-AAR61-N AAA L	-1	1			*******	1	2	0.5 OLET THREDOLET - ANSI B16.11 #3000 SCF		0	1	E/
AAA		AV-301068-AAR61-N_AAA_L	-1	1					2	0 90 ELBOW LR VARIABLE ANGLE BUTT WELD - ANSI B16.9 NR B.		0	1	E/
AAA		AV-301068-AAR61-N AAA L	-1	1			*******	0.		0 TUBE CONNECTOR F TYPE SOCKET WELD - TASNEE #3000 S		0		E/
AAA		AV-301068-AAR61-N AAA L	-1	1			*******		4	0 FLANGE WELDING NECK - ANSI B16.5 #150 RF		0	1	E/
AAA		AV-301068-AAR61-N AAA L	-1	1			*******		4	0 GASKET 4.5MM - ANSI #150 RF		0		E/
AAA		AV-301068-AAR61-N AAA L	-1	1			*******	0.62	5	0 100 STUD BOLT CW HVY HEX NUTS		0		E/
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1	1	TAAR61	р	PPAA1P312C2AB18		8	0 PIPE ERW API 5L-B PSL.1 BE ASME B36.10M STD		0	1.8	
AAB	WBS-2	AV-329088-TAAR61-N AAB NE	-1		TAAR61	ER	KEABWB2R3AB18		8	10 ECC.REDUCER WELDED A234-WPB BW W/100% RT ASME B16		0		E/
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1		TAAR61	50	KVAA2A1C20018		8	0.75 SOCKOLET CL 3000 A105 SW MSS SP-97		0		E
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1		TAAR61	E9	K9ABWB2R3AB18	-	8	0 90 ELBOW(LR) WELDED A234-WPB BW W/100% RT ASME B16.		0		E/
AAB	WBS-2	AV-329088-TAAR61-N AAB NE	-1		TAAR61	WF3	FWAA51137AB10		.0	0 WN FLANGE 300 LB A105 RF 125-250 AARH ASME B16.5 STD		0		E
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1		TAAR61	P	PPAASB201C2AC0G	0.7		0 PIPE SMLS A106-B PE ASME B36.10M XS		0	19.5	
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1		TAAR61	F9	K9AA2A1C4000G	0.7	-	0 90 ELBOW(LR) CL 3000 A105 SW ASME B16.11		0		E/
AAB	WBS-2	AV-329088-TAAR61-N AAB NE	-1		TAAR61	G3	G1A41133112800		0	0 SPIRAL WOUND GASKET 300 LB HOOP: SS316 FILLER : GRAPH		0		E/
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1		TAAR61	BT	B1A12206:170		0	0 170 STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H	1	1	16	
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1	1		01	********		8	0 DS02-18"-L100	-	0		E
AAB	WBS-2	AV-329088-TAAR61-N AAB NE	-1	1			*******		8	0 UB01-18"-G		0		E/
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1	1					8	0 606-63-18"-L931-E19538	+	0		E/
AAB	WBS-2	AV-329088-TAAR61-N_AAB_NE	-1	1			********		8	0 ATTA PIPE END 45 DEG CUT		0		E/
AAB	WBS-2	AV-329088-TAAR61-N AAB NE	-1	1			*******	0.7	_	0 General purpose ATTA		0		E/
AAC	WBS-2	AV-323000-TAAR01-N_AAD_NE	-1	1					8	0 TUBE WELDED AND SEAMLESS WROUGHT STEEL PIPE - ANSI	+	0	3.8	
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE	-1		TAAR61	D	PPAASB202C2AB08		8	0 PIPE SMLS A106-B BE ASME B36,10M STD		0	5.2	
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE	-1	1			********		8	0 PIPE#SMLS./WELDED, ASME B16.10/19/RSP	+	0	0.2	
ABC	WBS-4	AV-386038-TAAR61-H ABC NE	-1		TAAR61	E9	K9ABSB2C1AB08		8	0 90 ELBOW(LR) SMLS A234-WPB BW ASME B16.9 STD		0		E/
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE	-1		TAAR61	WF	FWAA21137AB08		8	0 WN FLANGE 150 LB A105 RF 125-250 AARH ASME B16.5 STD		0		E/
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE	-1		TAAR61	G	G1A21133112800		8	0 SPIRAL WOUND GASKET 150 LB HOOP: SS316 FILLER : GRAPH		0		E/
ABC	WBS-4	AV-386038-TAAR61-H ABC NE	-1		TAAR61	BT	B1A12206:115		0	0 115 STUD BOLT W/2-NUT HEAVY HEX.NUT A193-B7 A194-2H	2/4	-	-	E/
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE AV-386038-TAAR61-H_ABC_NE	-1	1		01	BIA12200:115		8	0 PIPE TIE-IN POINT ATTA	. 3/4	0		E/
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE	-1	1			*******		o 8	0 UB01-8"-G	+	0		E/
ABC	WBS-4	AV-386038-TAAR61-H_ABC_NE	-1	1			*******		8	0 ATTA PIPE END 45 DEG CUT	+	0		-
MBC	VVB5-4	AV-386038-TAAR61-H_ABC_NE	-1	1					•	0 ATTA PIPE END 45 DEG CUT	_	U	1	EA

SmartAdmin[™] / Samrt Model (Miscellaneous)

AVEVA Everything 3D Piping Admin. Automation



SmartAdmin[™] – LM (License Monitor)

Real-time monitoring of AVEVA license holding status and usage.

🔛 SMARTADMIN - LI	ICENSE N	NONITOR	[1-	1-1]		_	×
AVEVALIC	~	REFRE	SH				
APPLICATION	INUSE	TOTAL	^	GROUP	HOSTNAME	USERNAME	
E3D	1	30		DefaultGrp	dhyang	dhyang	
AVEVA230	0	2					
AVEVA896	0	30					
DESI-PIPEFAB	0	30					
DESIGN-PLATFORM	1	1					
DGN2REV	0	1					
DWF-EXPORT	0	1					
Global Server	0	2					
GLOBAL Satellite	0	6					
ISODRAW	0	30					
IVS2REV	0	1					
PDMS	0	30					
PDMS-CLASHMAN	0	1					
PVS2REV	0	1					
REVIEWAPPL	0	1	~				
Updated 2024-11-16 S	2후 9:37	:33					0:

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SmartModel[™] – AI (Attribute Import)

- Automatically inputs data in Microsoft Excel format into user-defined properties of E3D system.
- Process Line Condition of piping Line-List can be imported easily.
- The content and properties being imported can be easily adjusted using E3D PML.

		PIPING	~	1 .	REPORT	PIPING LINE	CONDITION	4 ~						
Ð			B	ا 👉	ADD C	ONDITION								
TYPE		-		Р	ID	+ :LCTYPE	+ FLUID +	SERIAL 🕫 HC)LD 🖶 CLASS 🖶 SIZE	E1 🕫 SIZE2	+ FROM +	TO +¤	OPRE	s
ZONE		ING_AAD_				C A	Ch/D	2020.42	TAAD70	2	_	SA.		_
ZONE		ING_AAD_ ING_AAD_					CWR CWR	383042 383044	TAAR78 TAAR78	3	351-08	SA	ATM ATM	
2011	- //11			Ŭ		C B	CWS	383041	TAAR78	2	351-08	SA	ATM	
							HBW	383005	TEBJ61	2	3SI-08	SA	ATM	
<			20	*] Total Item	ıs = 4							14 4	ł
Drag	g a colun	nn header	r here to ç	group by	y that colu	umn.	₽ :SGCLIN	ETO + SGCOF	PRES + SGCOTEMP	° ≠ :SGCDF	RES += :SG			
Drag	g a colun		r here to ç	group by	y that colu	umn.	 ■ :SGCLINE 3P-83710 		PRES + :SGCOTEMF 37.9999999		'RES += :SG		/P +≥ :	
Drag CH	g a colun IECK	+ SITE +	r here to g ZONE +¤	group by PIPE +P	ythat colu SPEC +⊐	umn. :SGCLINEFR -		C 5					/IP += :	S
Drag CH	g a colum IECK N N N	+ SITE + /PIPI /PIPI	ZONE += /PIPIN /PIPIN /PIPIN	group by PIPE += /CW /CW	y that colu SPEC +> TAAR TAAR TAAR	Imn. ISGCLINEFR - TP8981.1-04 3P-8371C 3PI-8302C	3P-83710 TP8981.1 TP8981.1	C 5 1-03 2 1-05 2	37.99999999 51 51	9 9 9 9	65 65 65		ИР +р : 	SO
Drag CH	g a colun IECK N N N N	+ SITE + SITE + /PIPI /PIPI /PIPI /PIPI	/PIPIN /PIPIN /PIPIN /PIPIN	PIPE += /CW /CW /CW	TAAR TAAR TAAR TAAR TAAR	Imn. ISGCLINEFR TP8981.1-04 3P-8371C 3PI-8302C TP8981.1-06	3P-83710 TP8981.1 TP8981.1 3PI-8302	C 5 1-03 2 1-05 2 IC 5	37.99999999 51 51 37.99999999	9 9 9 9 0 9	65 65 65 65		/IP +> : 	S
Drag CH	g a colum IECK N N N	+ SITE + /PIPI /PIPI	ZONE += /PIPIN /PIPIN /PIPIN	group by PIPE += /CW /CW	y that colu SPEC +> TAAR TAAR TAAR	Imn. ISGCLINEFR - TP8981.1-04 3P-8371C 3PI-8302C	3P-83710 TP8981.1 TP8981.1	C 5 1-03 2 1-05 2	37.99999999 51 51	9 9 9 9	65 65 65		ИР +р : 	S

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SmartModel[™] – REPORT (Report Utility)

- Program that generates REPORT in the E3D system
- REPORT types can be added easily using E3D PML.
- For example, you can customize report like the below:
 - Piping Component Report
 - Instrument Report
 - Equipment Report

1	RT MODEL - REPORT												
EPORTS	3												
CATEGO	DRY PIPING ~	REPOR	PIPING	COMPONE	NT REPOR	T ~							
Ð	I		CONDITIO	4									
			TE +≠	ZONE +=	PIPE +≠	CLASS +	GTYP	SHORTCODE +	SIZE1 ·	⊨ SIZE2 ≠	MTOC +	■ Qty(EA/M) +	C
			/PIPING	/PIPING	/MBW-3	TAAR61	ELBO	E4	20	20		1	K
			/PIPING	/PIPING	/MBW-3	TAAR61	ELBO	E9	20	20		3	K
	🔁 📄			/PIPING	/MBW-3	TAAR61	TUBE	P	20			7.5	P
			/PIPING	/MBW-3							6	-	
TYPE	NAME /PIPING_AAD_NE_(SEPC) /PIPING_AAD_S		/PIPING	/PIPING	/MBW-3	INST.BW	FILT	ST2000	20	20		1	
SITE			/PIPING	/PIPING	/MBW-3	TEBJ61	ELBO	E4	12	12		1	K
SITE			/PIPING	/PIPING	/MBW-3	TEBJ61	ELBO	E9	2	2		2	K
				/PIPING	/MBW-3	TEBJ61	ELBO	E9	12	12		2	K
		-12				TEBJ61	ELBO	E9	20	20		2	
				/PIPING	/MBW-3 /MBW-3	TEBJ61	FBLI	BF	2	2		1	F
		-	/PIPING	/PIPING	/MBW-3	TEBJ61	FLAN	WF	2	2		1	F
		-12				TEBJ61	FLAN	WF	12	12		3	1.
		-	/PIPING	/PIPING	/MBW-3	TEBJ61	GASK	G	2	2		1	G
		-			/MBW-3	TEBJ61	GASK	G	12	12		2	
		-12	/PIPING	/PIPING	/MBW-3	TEBJ61	OLET	WO	20	2		1	K
					/MBW-3	TEBJ61	REDU	ER	20	12		1	K
			/PIPING	/PIPING	/MBW-3	TEBJ61	TUBE	P	2			0.5	P
			/PIPING	/PIPING	/MBW-3	TEBJ61	TUBE	P	12			1.4	P
		-	/PIPING	/PIPING	/MBW-3	TEBJ61	TUBE	P	20	-		19.1	P
			/PIPING	/PIPING	/MBW-3	TEBJ61	VALV	GA	2	2		2	V
		-	/PIPING	/PIPING	/MBW-3	TEBJ61	VALV	GA	20	20	0.55	1	V
			PIPING	PIPING	/MRW-3		1	1		1	OFF	2 4 ↓ ▶	H



This presentation may include predictions, estimates, intentions, beliefs and other statements th at are or may be construed as being forward-looking. While these forward-looking statements re present our current judgment on what the future holds, they are subject to risks and uncertaintie s that could result in actual outcomes differing materially from those projected in these statemen ts. No statement contained herein constitutes a commitment by G1CNT to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to plac e undue reliance on these forward-looking statements, which reflect our opinions only as of the d ate of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.

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G1CNT aims for global leader in engineering and industrial software driving digital transformation acr oss the entire asset and operational life cycle of capital-intensive industries.

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