Fabrication ESTmep 2016
The Basics - Getting Started

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Senior Project Draftsman

Class summary

This class is a basic introduction in Fabrication ESTmep 2016 software for the beginner. We will explore the software from opening it to producing estimates based on a designer's PDF background. We will manipulate spreadsheet data and import into the Fabrication ESTmep environment. We will also set up fabrication and labour tables and mapping to service buttons.
You will also learn how to create simple material and labour reports based on an imported vector PDF design drawing. Basic working knowledge of ESTmep would be advantageous if attending this demo.

Key learning objectives

At the end of this Instructional demo, you will have an insight into:

- Importing supplier data to the product information editor and database price lists.
- Setting up fabrication and install labour tables.
- Creating Ancillary Kits from ancillaries.
- Creating simple reports based on duct and pipe trace of designer's vector PDF

About the Speaker

Originally from Ramsbottom, in the North West of England

Dave worked in both the CAM & CAD departments for a large HVAC construction company, instrumental in the development of MAP's CADDuct software.

He spent a period working at MAP as their CAD support manager before moving to an HVAC contractor as a project engineer.

He then spent 5 years cutting his teeth at a global multi disciplinary design practice in central Manchester.

Following a move to Melbourne 4½ years ago Dave has spent the last 2 years configuring & deploying Autodesk's Fabrication ESTmep for A.G. Coombs.

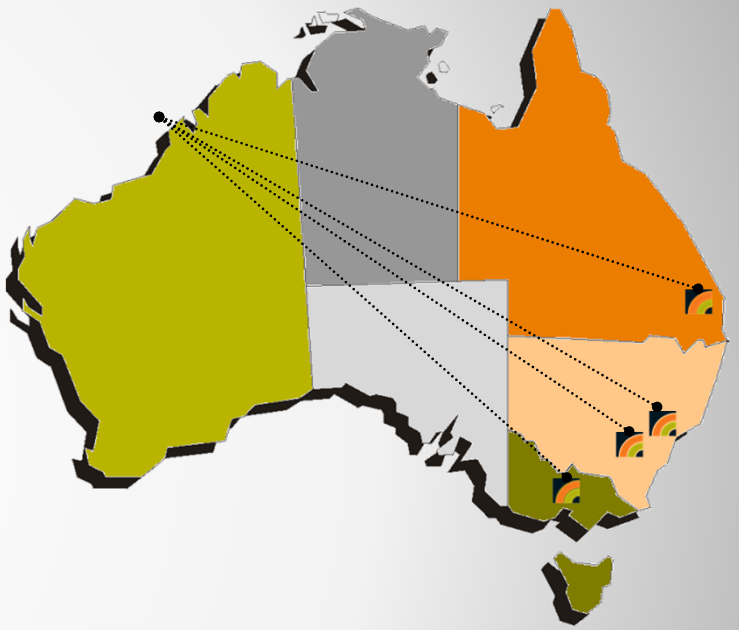
He brings over 25 years experience in the M.E.P. construction / design industry to AU 2015

A.G. Coombs Group of Companies

- **Whole of life Building Services specialists**
  - HVAC, Mechanical, Plumbing, Electrical, Fire, Building Technologies
  - All Technical systems from Concept & Design to Operation
  - Innovative Delivery, Engineering led
- **500+ Staff & technical personnel**
  - Melbourne, Sydney, Canberra, Brisbane
  - National Capability

A.G. COOMBS GROUP

- Privately Owned Corporate
- Establishment in **1945**
- Self Deliver Model
- Melbourne, Sydney and Brisbane
- The A.G. Coombs Group directly employs more than **550** personnel



INTEGRATED TECHNICAL MANAGEMENT
techfm.com.au

A.G.Coombs
agcoombs.com.au

walker FIRE PROTECTION
walkerfire.com.au

A.G. COOMBS PRE FAB

Box Hill Hospital Redevelopment Project

DUCTMAKERS

- 2 plasma lines
- 1 Vicon coil line
- 160 Tonnes / month
- 5000m^2 Insulation / month

A.G.Coombs

d&e air conditioning

A.G. COOMBS PROJECTS

- Health Care and Pharmaceutical
- Commercial / Tenancies
- Data Centres
- Performing Arts
- Cogeneration
- Energy Efficiency Upgrades

DARLING HARBOUR LIVE

Barangaroo

Software Packages Utilised

- ADSK Building Ultimate Suite (Revit / Navis Manage)
- ADSK CADmep / ESTmep
- Great Plains
- MS Office 365
- MS Project
- VDI
- Wennsoft

Business Process Change – Why Implement ESTmep?

- Where we were – QuickPen – DOS based stand alone PC's
- Integrate our Estimating, Design and Project Management Cost Control
- We needed to understand our costs better
- We needed to implement more efficient business processes.
- ESTmep – CADmep – CAMduct Intigration.
- Native Fabrication ITM's in Revit 2016 & beyond
- Variations & Cost Analysis

A.G. Coombs
Plan Ahead – Pre Setup

- Right people in place prior to setup.
- Management support
- Senior Estimator
- Technical Leader
- Support resource

Learning Objective 1
Managing Supplier Price Lists

- Configuring Excel Supplier Price Lists

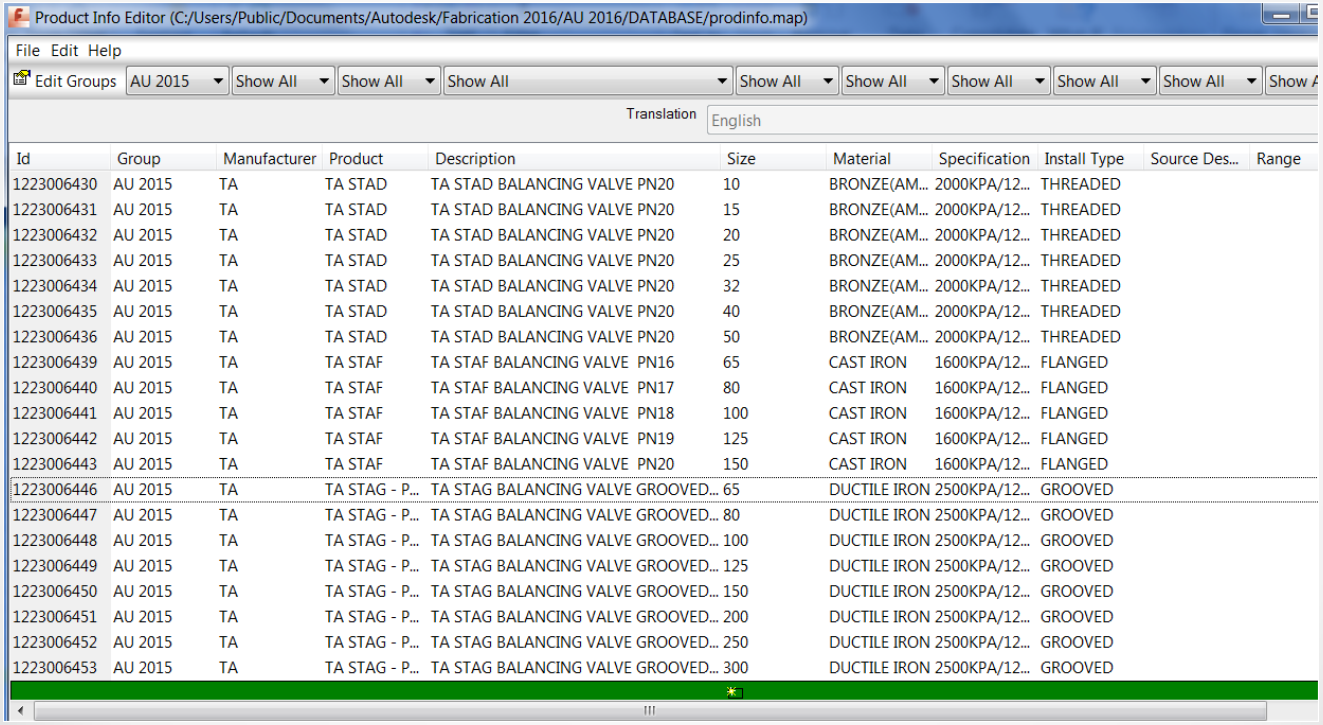
ESTMEP UPDATE CSV FILE FORMAT

1	2	3	4	5	6	7	8	10	11	12	13
Product ID	Product Name	Size	Supplier	Manufacturer	Manufacturer ProductCode	Description	Selling Units	Material	Specification	Weight / Selling Unit kg	Install Type
Mandatory	If Applicable	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	If Applicable	If Applicable	If Applicable	If Applicable
1006430	TA STAD	10	REECE	TA	52151009	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	0.6	THREADED
1006431	TA STAD	15	REECE	TA	52151014	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	0.7	THREADED
1006432	TA STAD	20	REECE	TA	52151020	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	0.7	THREADED
1006433	TA STAD	25	REECE	TA	52151025	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	0.9	THREADED
1006434	TA STAD	32	REECE	TA	52151032	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	1.2	THREADED
1006435	TA STAD	40	REECE	TA	52151040	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	1.4	THREADED
1006436	TA STAD	50	REECE	TA	52151050	TA STAD BALANCING VALVE PN20	Ea	BRONZE(AMETAL)	2000KPA/120°C	2.3	THREADED
1006450	TA STAF	65	REECE	TA	52181065	TA STAF BALANCING VALVE PN16	Ea	CAST IRON	1600KPA/120°C	12.4	FLANGED
1006455	TA STAF	80	REECE	TA	52181080	TA STAF BALANCING VALVE PN17	Ea	CAST IRON	1600KPA/120°C	15.9	FLANGED
1006460	TA STAF	100	REECE	TA	52181090	TA STAF BALANCING VALVE PN18	Ea	CAST IRON	1600KPA/120°C	22.0	FLANGED
1006465	TA STAF	125	REECE	TA	52181091	TA STAF BALANCING VALVE PN19	Ea	CAST IRON	1600KPA/120°C	32.7	FLANGED
1006470	TA STAF	150	REECE	TA	52181092	TA STAF BALANCING VALVE PN20	Ea	CAST IRON	1600KPA/120°C	42.4	FLANGED
1006584	TA STAG - PN25	65	REECE	TA	52183076	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	6.4	GROOVED
1006585	TA STAG - PN25	80	REECE	TA	52183089	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	9.1	GROOVED
1006586	TA STAG - PN25	100	REECE	TA	52183114	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	14.0	GROOVED
1006587	TA STAG - PN25	125	REECE	TA	52183140	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	22.7	GROOVED
1006589	TA STAG - PN25	150	REECE	TA	52183165	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	31.3	GROOVED
1006602	TA STAG - PN25	200	REECE	TA	52183219	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	63.5	GROOVED
1006603	TA STAG - PN25	250	REECE	TA	52183273	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	92.0	GROOVED
1006604	TA STAG - PN25	300	REECE	TA	52183324	TA STAG BALANCING VALVE GROOVED PN25	Ea	DUCTILE IRON	2500KPA/120°C	127.0	GROOVED

Supplier price lists standardised & configured to suit ESTmep interface.

Learning Objective 1
Managing Supplier Price Lists

- Populating the Product Information Editor.

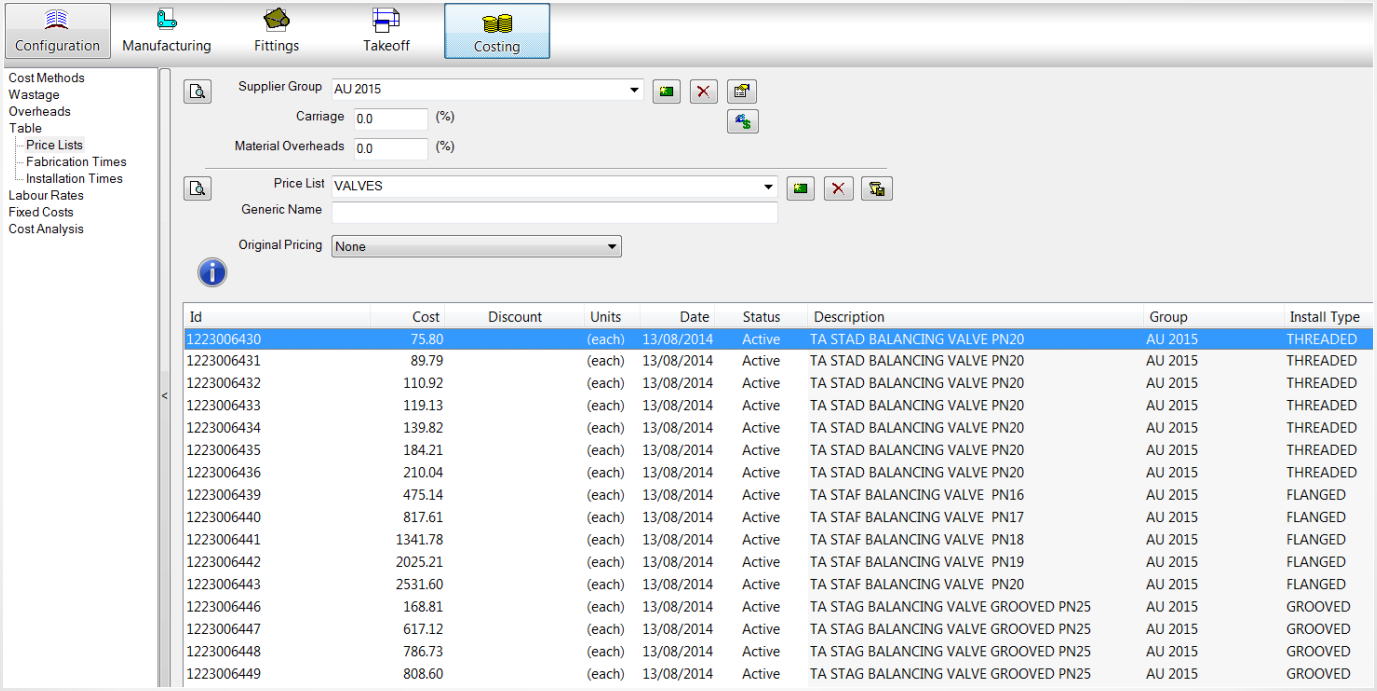


Id	Group	Manufacturer	Product	Description	Size	Material	Specification	Install Type	Source Des...	Range
1223006430	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	10	BRONZE(AM...	2000KPA/12...	THREADED		
1223006431	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	15	BRONZE(AM...	2000KPA/12...	THREADED		
1223006432	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	20	BRONZE(AM...	2000KPA/12...	THREADED		
1223006433	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	25	BRONZE(AM...	2000KPA/12...	THREADED		
1223006434	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	32	BRONZE(AM...	2000KPA/12...	THREADED		
1223006435	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	40	BRONZE(AM...	2000KPA/12...	THREADED		
1223006436	AU 2015	TA	TA STAD	TA STAD BALANCING VALVE PN20	50	BRONZE(AM...	2000KPA/12...	THREADED		
1223006439	AU 2015	TA	TA STAF	TA STAF BALANCING VALVE PN16	65	CAST IRON	1600KPA/12...	FLANGED		
1223006440	AU 2015	TA	TA STAF	TA STAF BALANCING VALVE PN17	80	CAST IRON	1600KPA/12...	FLANGED		
1223006441	AU 2015	TA	TA STAF	TA STAF BALANCING VALVE PN18	100	CAST IRON	1600KPA/12...	FLANGED		
1223006442	AU 2015	TA	TA STAF	TA STAF BALANCING VALVE PN19	125	CAST IRON	1600KPA/12...	FLANGED		
1223006443	AU 2015	TA	TA STAF	TA STAF BALANCING VALVE PN20	150	CAST IRON	1600KPA/12...	FLANGED		
1223006446	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	65	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006447	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	80	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006448	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	100	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006449	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	125	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006450	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	150	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006451	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	200	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006452	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	250	DUCTILE IRON	2500KPA/12...	GROOVED		
1223006453	AU 2015	TA	TA STAG - P...	TA STAG BALANCING VALVE GROOVED...	300	DUCTILE IRON	2500KPA/12...	GROOVED		

A one off exercise populating the P.I.E. with supplier data.

Learning Objective 1
Managing Supplier Price Lists

- Populating a Database Price List



Id	Cost	Discount	Units	Date	Status	Description	Group	Install Type
1223006430	75.80		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006431	89.79		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006432	110.92		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006433	119.13		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006434	139.82		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006435	184.21		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006436	210.04		(each)	13/08/2014	Active	TA STAD BALANCING VALVE PN20	AU 2015	THREADED
1223006439	475.14		(each)	13/08/2014	Active	TA STAF BALANCING VALVE PN16	AU 2015	FLANGED
1223006440	817.61		(each)	13/08/2014	Active	TA STAF BALANCING VALVE PN17	AU 2015	FLANGED
1223006441	1341.78		(each)	13/08/2014	Active	TA STAF BALANCING VALVE PN18	AU 2015	FLANGED
1223006442	2025.21		(each)	13/08/2014	Active	TA STAF BALANCING VALVE PN19	AU 2015	FLANGED
1223006443	2531.60		(each)	13/08/2014	Active	TA STAF BALANCING VALVE PN20	AU 2015	FLANGED
1223006446	168.81		(each)	13/08/2014	Active	TA STAG BALANCING VALVE GROOVED PN25	AU 2015	GROOVED
1223006447	617.12		(each)	13/08/2014	Active	TA STAG BALANCING VALVE GROOVED PN25	AU 2015	GROOVED
1223006448	786.73		(each)	13/08/2014	Active	TA STAG BALANCING VALVE GROOVED PN25	AU 2015	GROOVED
1223006449	808.60		(each)	13/08/2014	Active	TA STAG BALANCING VALVE GROOVED PN25	AU 2015	GROOVED

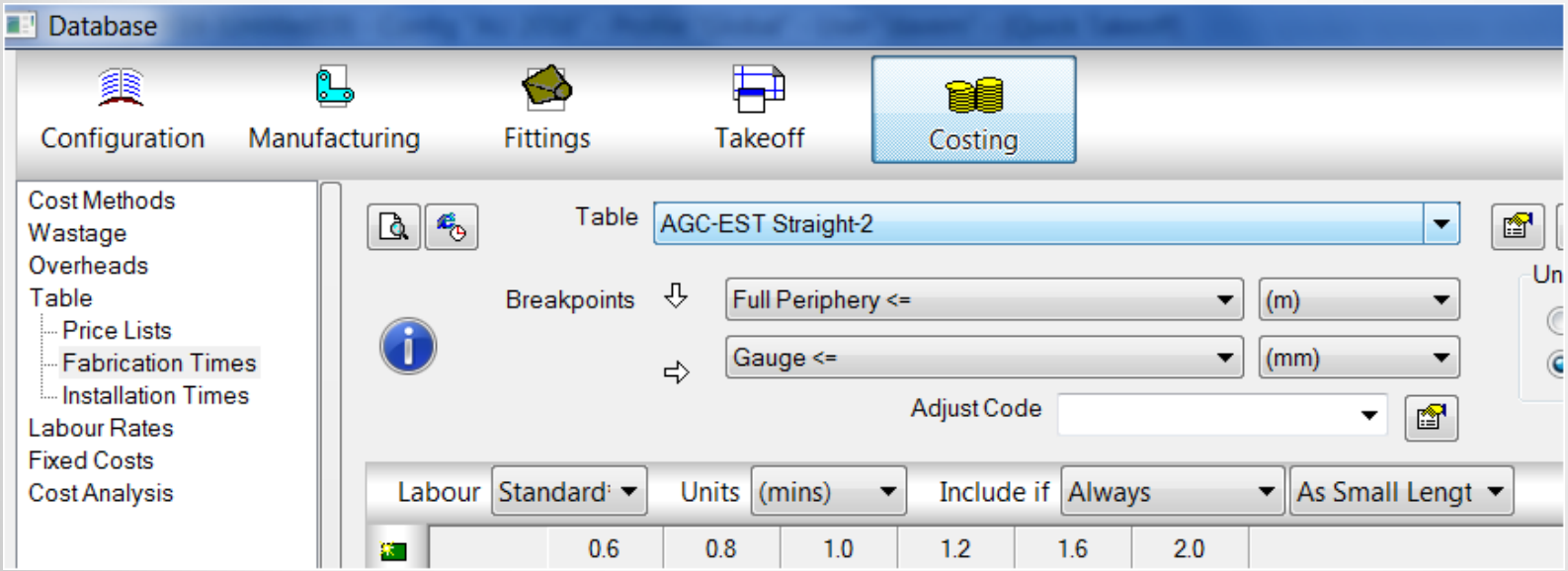
Import your supplier prices into the ESTmep database price list section.

Learning Objective 2
Setting up Fabrication & Labour Tables

- Pre-determine your data

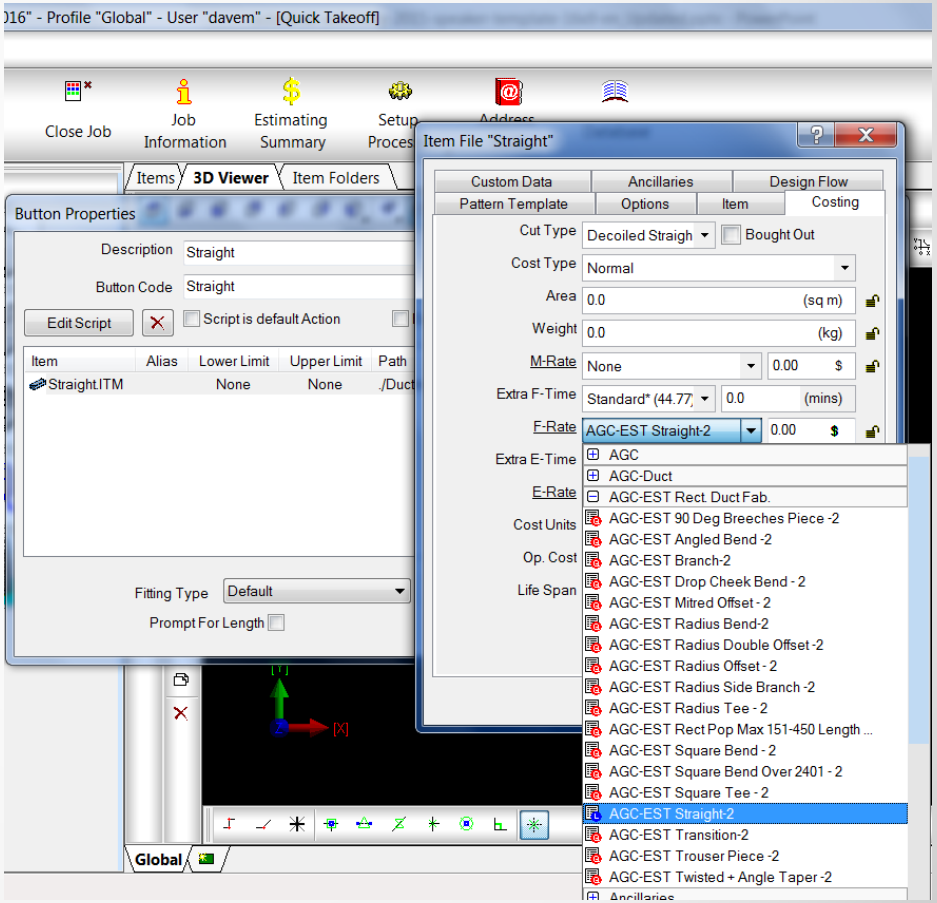
Learning Objective 2
Setting up Fabrication & Labour Tables

- Determine your parameters for break points.



Learning Objective 2
Setting up Fabrication & Labour Tables

- Mapping buttons with tables.



Learning Objective 3
Ancillaries & Kits

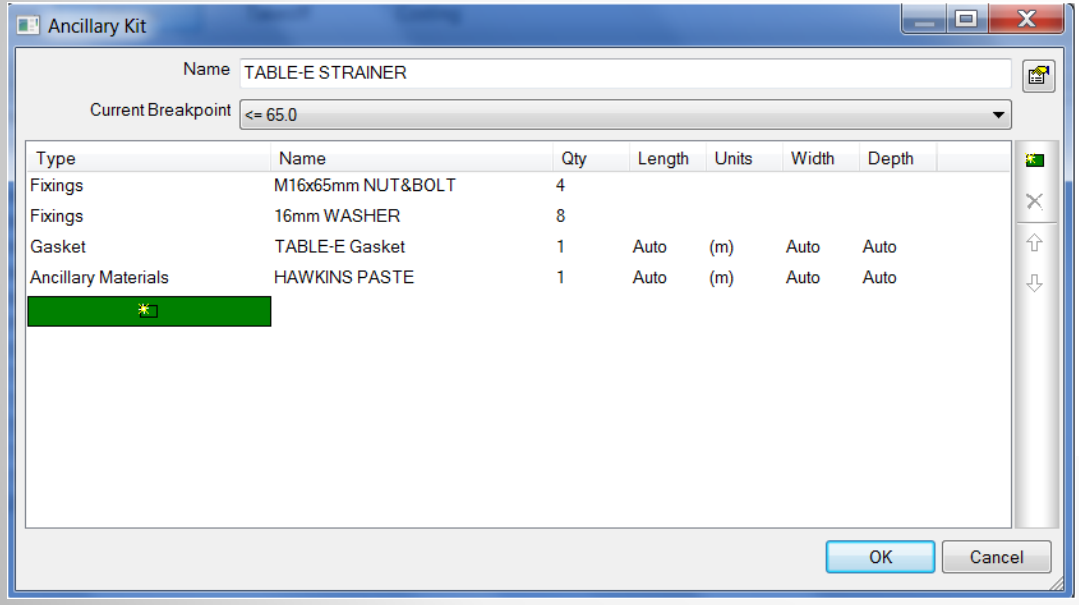
- Pre-determine kit requirements

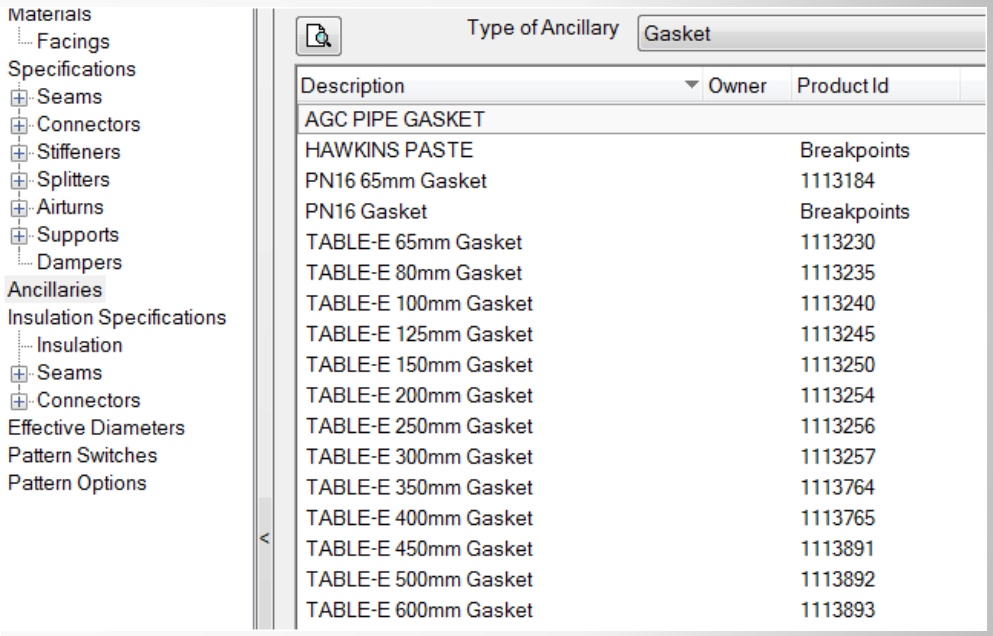
	A	B	C	D	E	F	G	H	I	J	K
6	Copper	Spacings						CHW			HHW
7	Nominal pipe size (mm	Pipe (m)	Hanger rod diameter (mm	Hanger rod length (m)	Flexistrut Clevis	Clamp type	nsulation Thickness (mm	Flexistrut clamp	Insulation Thickness	Labour (HR)	Flexistrut clamp
8	15	1	10	1	FM153-M10	BAND	38	FM123-015E	25	0.48	FM123-015D
9	20	1.5	10	1	FM153-M10	BAND	38	FM123-020E	25	0.48	FM123-020D
10	25	2	10	1	FM						
11	32	2.5	10	1	FM						
12	40	2.5	10	1	FM						
13	50	2.5	10	1	FM						
14	65	2.5	12	1	FM						
15	80	3	12	1	FM						
16	100	3	16	1	FM						
17	125	3	16	1	FM						
18	150	3	20	1	FM						
19	200	4	20	1	FM						
20											
21	Steel										
22	Nominal pipe size (mm	Pipe (m)	Hanger rod diameter (mm	Hanger rod length (m)	Flexi						
23	15	2	10	1	FM						
24	20	2	10	1	FM						
25	25	2.5	10	1	FM						
26	32	3	10	1	FM						
27	40	3	10	1	FM						
28	50	3	10	1	FM						
29	65	3	12	1	FM						
30	80	4	12	1	FM						
31	100	4	16	1	FM						
32	125	4	16	1	FM						
33	150	4	20	1	FM						
34	200	5	20	1	FM						
35	250	5	25	1	FM						
36	300	5	25	1	FM						
37	350	5	25	1	FM						
38	400	5	25	1	FM						
39	450	5	25	1	FM						
40	500	5	25	1	FM						
41	600	5	25	1	FM						

	A	B	C	D	E	F
1						
2		Pair of Table "E" flanges				
3	N.B	Bolts No off	Bolt Dia & length	Nuts	Washers	Gasket
4	65	4	M16 X 50	4	8	Yes
5	80	4	M16 X 50	4	8	Yes
6	100	8	M16 X 50	8	16	Yes
7	125	8	M16 X 50	8	16	Yes
8	150	8	M20 X 60	8	16	Yes
9	200	8	M20 X 80	8	16	Yes
10	250	12	M20 X 80	12	24	Yes
11	300	12	M20 X 80	12	24	Yes
12	350	12	M24 X 100	12	24	Yes
13	400	12	M24 X 100	12	24	Yes
14	450	16	M24 X 100	16	32	Yes
15	500	16	M24 X 130	16	32	Yes
16	600	16	M30 X 160	16	32	Yes
17						

Learning Objective 3
Ancillaries & Kits

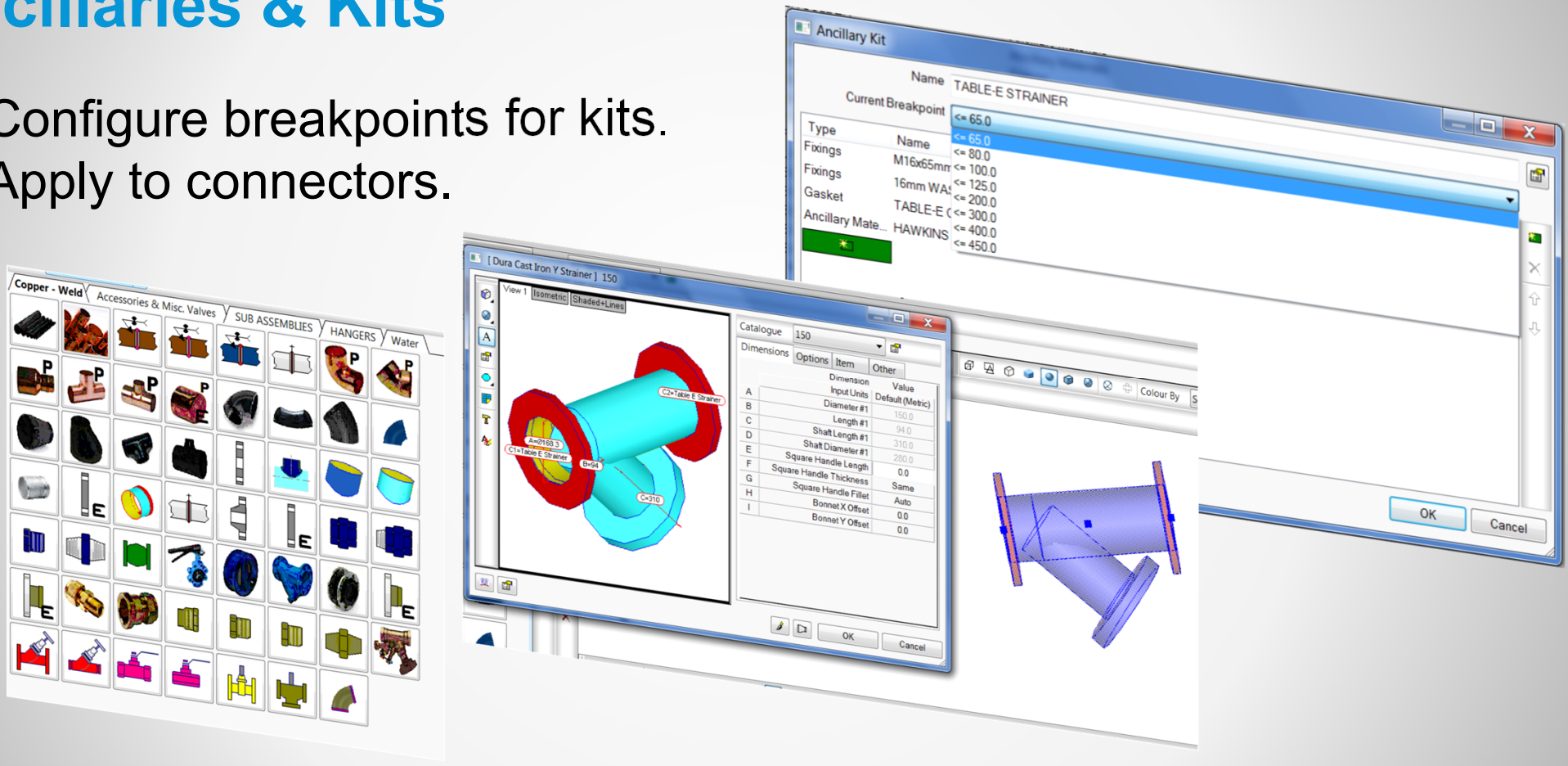
- Compile table of ancillaries.
- Build your kits.





Learning Objective 3
Ancillaries & Kits

- Configure breakpoints for kits.
- Apply to connectors.



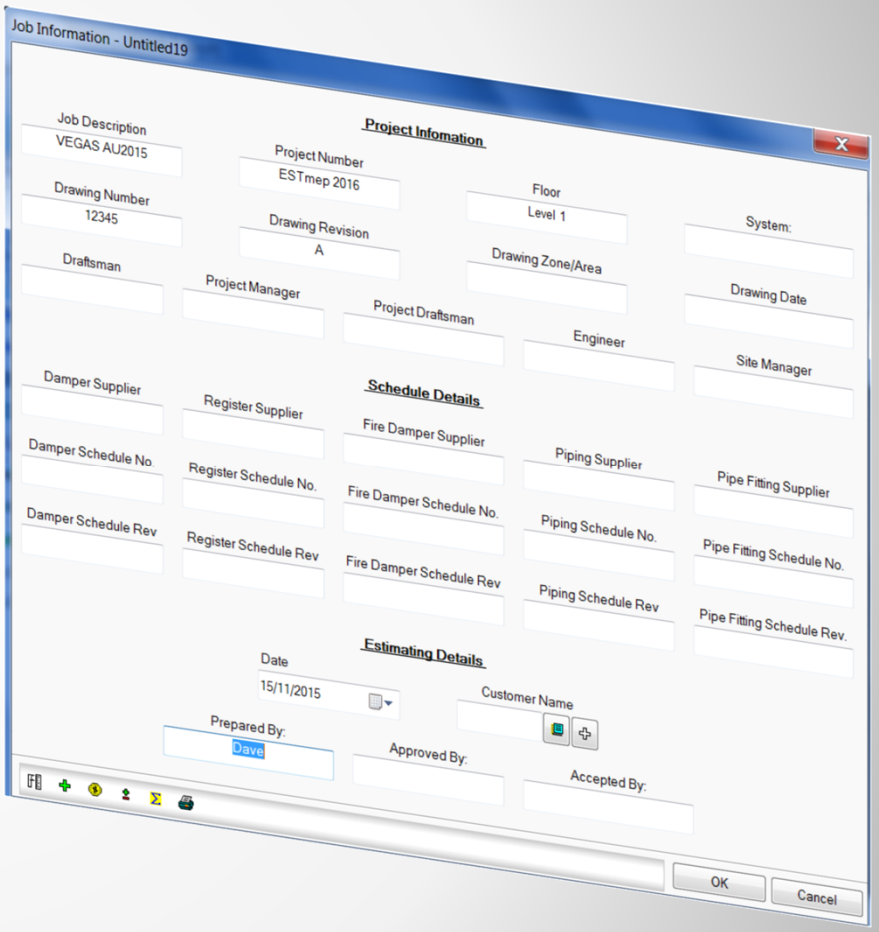
Learning Objective 4
Creating Simple Reports

- Pre-determine required data to report out.
  Map out what you want to see in your report.

	A	B	C	D	E	F	G	H
1	Ductwork							
2	Service	Material	Guage	Size	Length	Sqr /m	Fab Time	Install Time
3								
4	Hangers	Rod	Support	Nuts				
5								
6	Ancillaries	Bolts	Clips	Tape				
7								
8	Pipework							
9	Service	Material		Dia	Length	Qty	Price	Install Time
10								

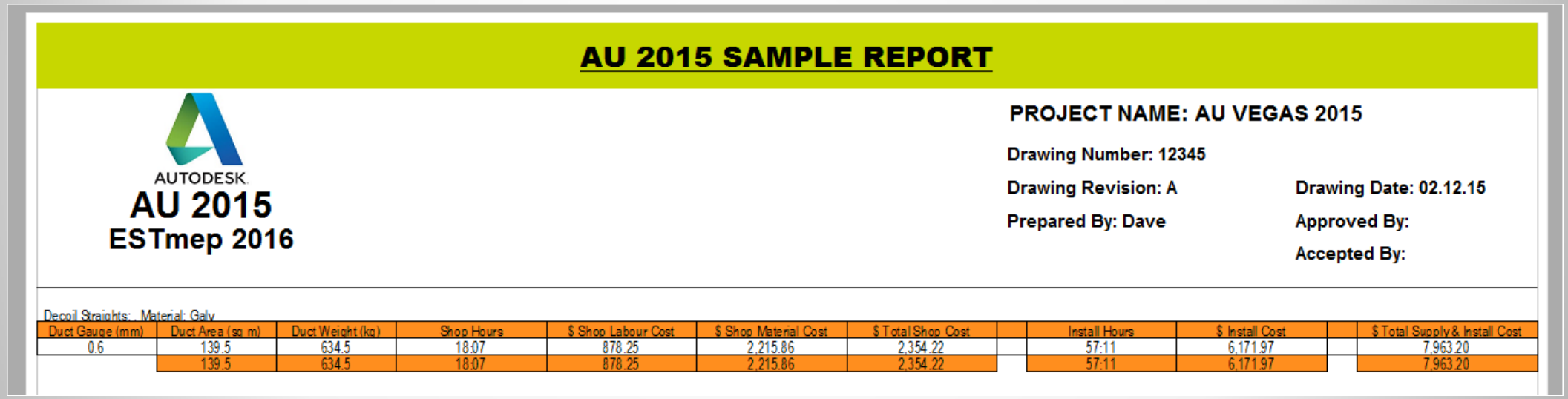
Learning Objective 4
Creating Simple Reports

- Populate your Job Information.



Learning Objective 4
Creating Simple Reports

- Configure your Report Header and report fields.



AU 2015 SAMPLE REPORT

AUTODESK
AU 2015
ESTmep 2016

PROJECT NAME: AU VEGAS 2015

Drawing Number: 12345

Drawing Revision: A **Drawing Date: 02.12.15**

Prepared By: Dave **Approved By:**

Accepted By:

Decoil Straights: , Material: Galv

Duct Gauge (mm)	Duct Area (sq m)	Duct Weight (kg)	Shop Hours	$ Shop Labour Cost	$ Shop Material Cost	$ Total Shop Cost		Install Hours	$ Install Cost		$ Total Supply & Install Cost
0.6	139.5	634.5	18:07	878.25	2,215.86	2,354.22		57:11	6,171.97		7,963.20
	139.5	634.5	18:07	878.25	2,215.86	2,354.22		57:11	6,171.97		7,963.20

Summary

- Plan ahead
- Compile all your data
- Have the right team in place
- Formulate a strategy
- Set deadlines / Goals
- Don’t get side-tracked
- Focus on 1 aspect at a time
- Test & Validate before Rollout

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