

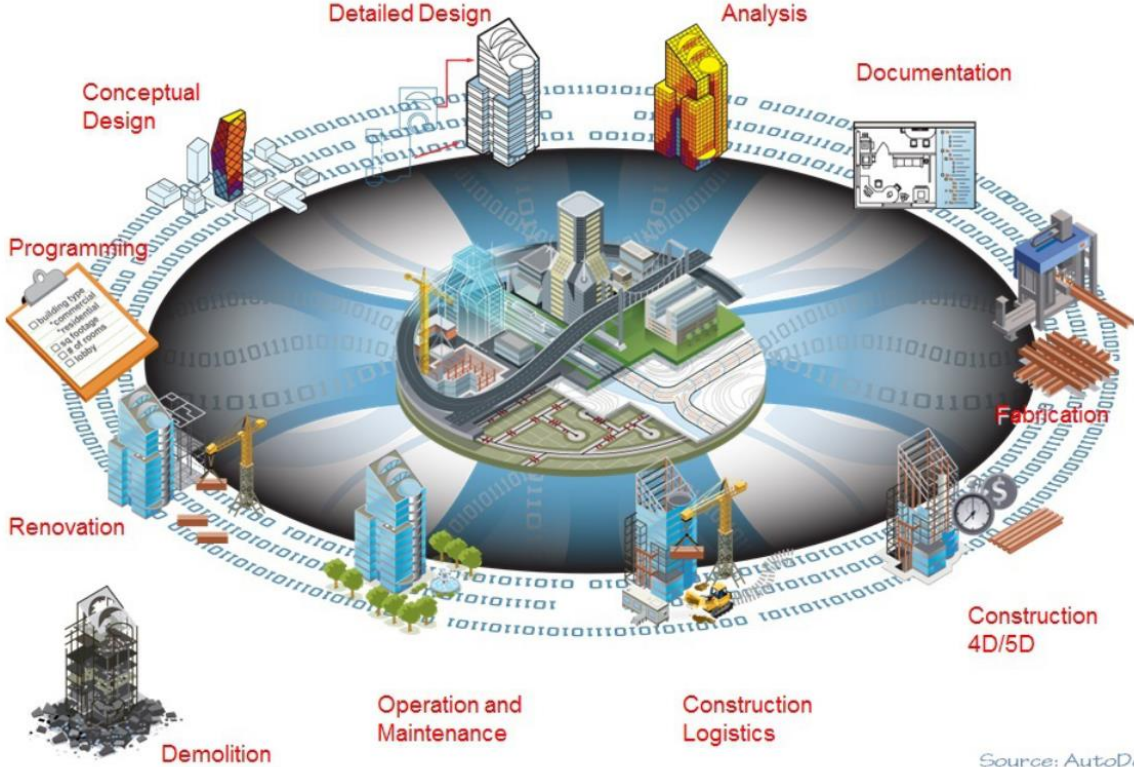
DELIVERING STRUCTURED DATA

Building Capabilities
in Complex Environments

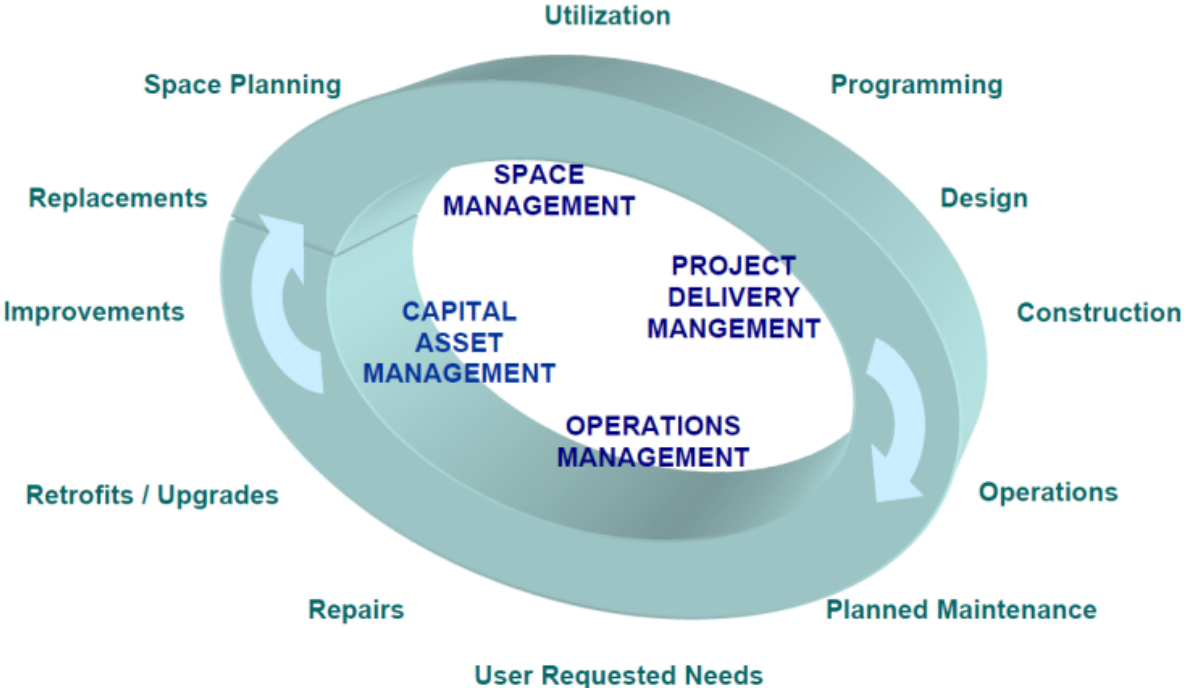
Bobby Gallagher (DFM SYSTEMS)



What is Structured Data



Source: AutoDesk



CITA
BIM GATHERING



Interoperability



NIST GCR 04-867

NIST U.S. Department of Commerce
Technology Administration
National Institute of Standards and Technology

Advanced Technology Program
Information Technology and Electronics Office
Gaithersburg, Maryland 20899

Cost Analysis of Inadequate Interoperability in the U.S. Capital Facilities Industry

Michael P. Gallaher, Alan C. O'Connor, John L. Dettbarn, Jr., and Linda T. Gilday



US Department of Commerce Technology Administration
National Institute of Standards & Technology (NIST)

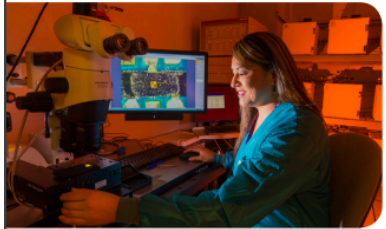
Report 2004

Lack of Access to Information for Management and Operation of Buildings Costs

€2.0 per sq.m. each year (cost to Owners)



Sandia National Laboratories



Sandia grew out of America's World War II atomic bombs. Today, keeping them effective is a major part of Sandia's security engineering laboratory. Sandia addresses additional complex threats facing research and development in:

Nuclear Weapons – Supporting the sustain, modernize and secure the

National Security Programs – Protecting and intelligence technology and the defenders.

Defense Nuclear Nonproliferation – Addressing emerging threats, protecting nuclear emergency response

Energy & Homeland Security – Protecting the grid and physical infrastructure against nuclear, radiological

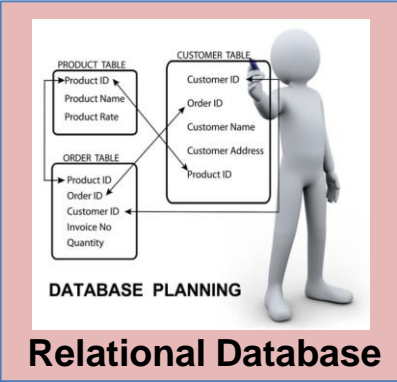
Advanced Science & Technology – Advancing national security, economic competitiveness of life.

Sandia's science, technology and unique mission. The laboratory's at the forefront of innovation, collaborating with companies and performing multi-research programs with significant

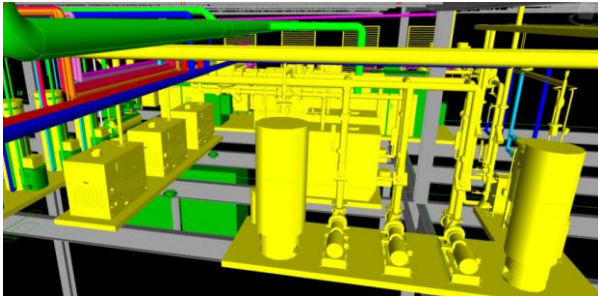
Follow up study by Sandia Laboratories

Looking for O&M information to full fill Work Orders

**€3.5 per sq.m. each year
(cost to Owners for 60% of work orders)**



IFC File



3D Model



Digital Safety File

IFC - Industry Foundation Classes and is an open structured data format

COBie – Construction Operation Building Information Exchange

Structured Data?





**THIS IS WHAT A BUILDING OWNER GETS ON
PROJECT CLOSEOUT**



Easy to Access? Easy to Search? Accurate? Up-to-date?



Standards and Classification

BS1192 & PAS 1192 Set



PAS 1192-2:2013
Incorporating Corrigendum No. 1

Specification for information management for the capital/delivery phase of construction projects using building information modelling



bsi.

PAS 1192-3:2014
Incorporating Corrigendum No. 1

Specification for information management for the operational phase of assets using building information modelling



bsi.

BS 1192-4:2014



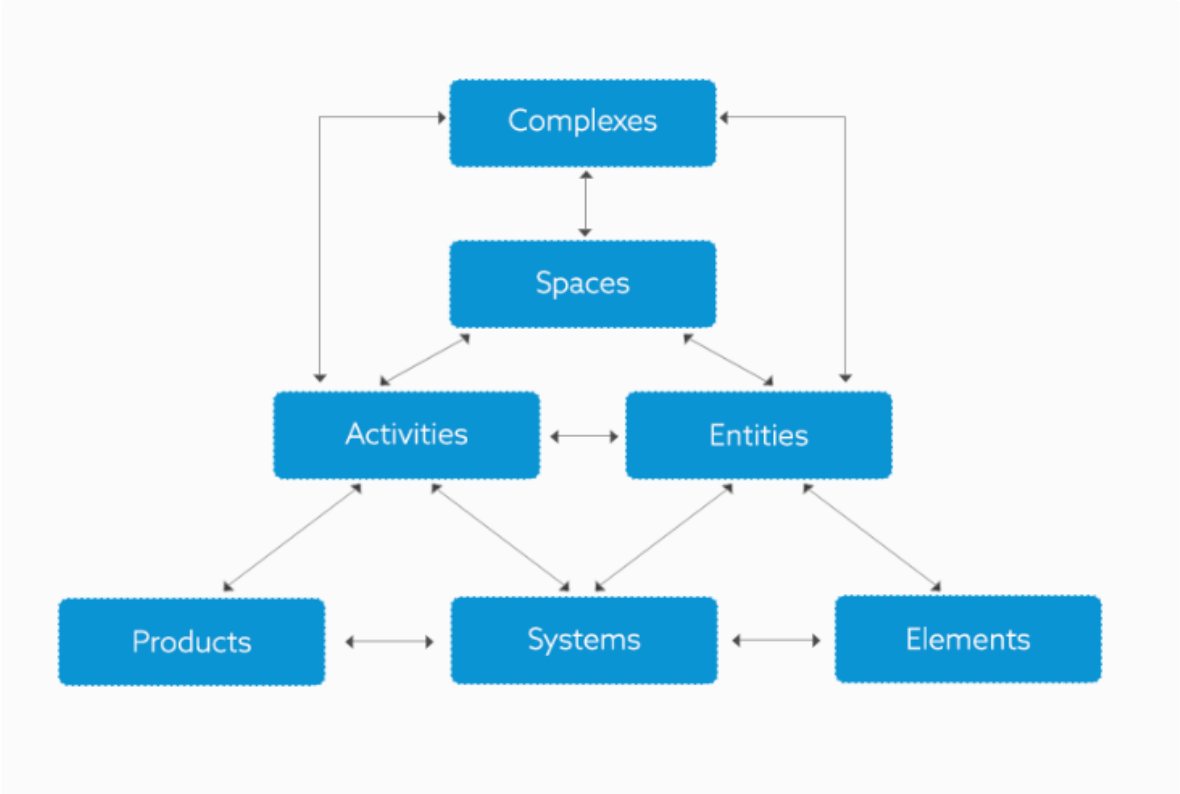
BSI Standards Publication

Collaborative production of information

Part 4: Fulfilling employer's information exchange requirements using COBie – Code of practice

bsi.

...making excellence a habit.™





Level of detail

Level of information

2

Requirement

Graphical representation of element, dimensionally accurate.

Purpose of information

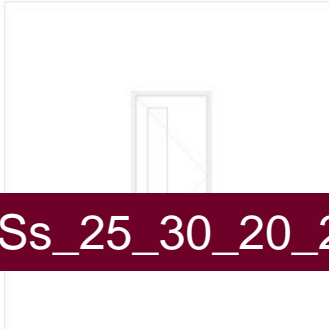
To provide a visual indication of proposals at a Concept stage identifying key requirements such as access and maintenance zones etc.

Information to be suitable for spatial coordination of primary systems / elements.

Plan

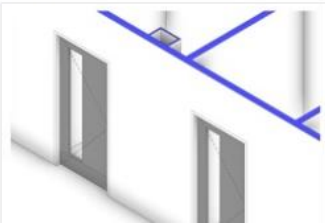


Elevation



Ss_25_30_20_25

Model



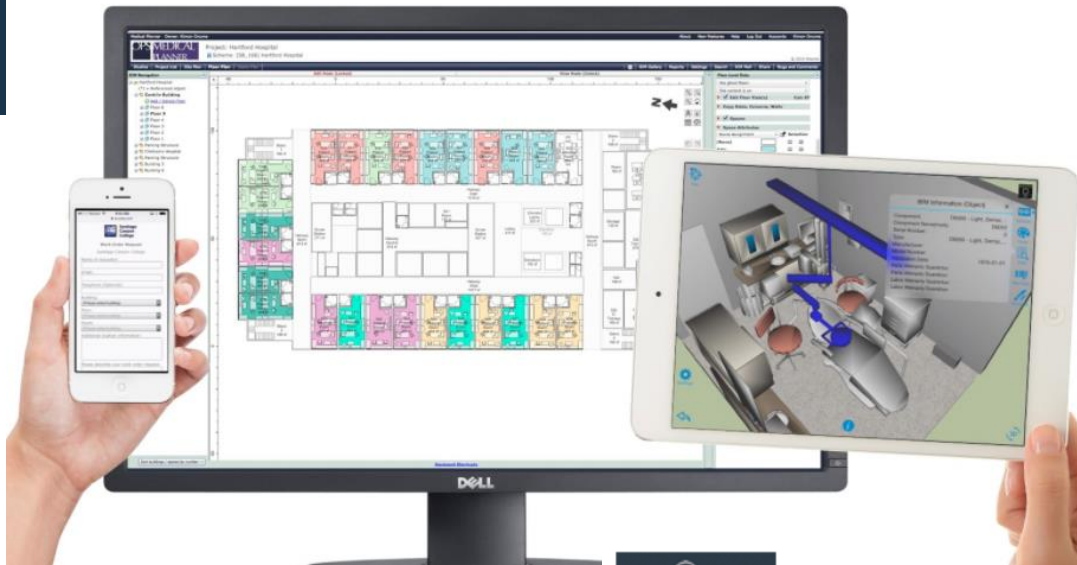
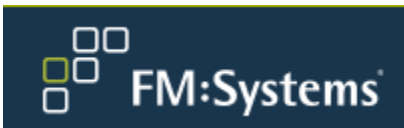
2D Section



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Owner Needs



Tririga







Show service history

Prove ownership



**Save 2-3 weeks
in sale process**

**Cost of €60,000 due to
lack of documentation**





Typically not BIM experienced

Working on many cases on a daily basis

May be still paper based

May be outsourced



Who will use the data

What documents and data do they need

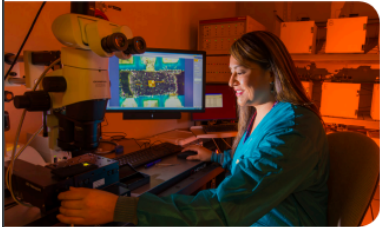
What Maintenance Software / Systems do they use

What format do they want the data in

What devices will they use



Sandia National Laboratories



Sandia
National
Laboratories

Sandia grew out of America's World War II effort to develop the first atomic bombs. Today, keeping the U.S. nuclear stockpile safe, secure and effective is a major part of Sandia's work as a multidisciplinary national security engineering laboratory. Sandia's role has evolved to address the additional complex threats facing our country. Sandia carries out research and development in:

Nuclear Weapons – Supporting U.S. deterrence policy by helping sustain, modernize and secure the nuclear arsenal.

National Security Programs – Providing advanced defense, deterrent and intelligence technology and analysis to strengthen our nation's defenders.

Defense Nuclear Nonproliferation – Developing systems to monitor emerging threats, protecting nuclear assets and materials, and addressing nuclear emergency response and nonproliferation worldwide.

Energy & Homeland Security – Ensuring stable energy resources, protecting the grid and physical infrastructure, and helping protect the nation against nuclear, radiological, chemical and biological threats.

Advanced Science & Technology – Fundamental science to promote national security, economic competitiveness and improved quality of life.

Sandia's science, technology and engineering foundations enable our unique mission. The laboratory's highly specialized research staff is at the forefront of innovation, collaborating with universities and companies and performing multidisciplinary science and engineering research programs with significant impact on U.S. security.

BIMForum presentation in Nov 2012

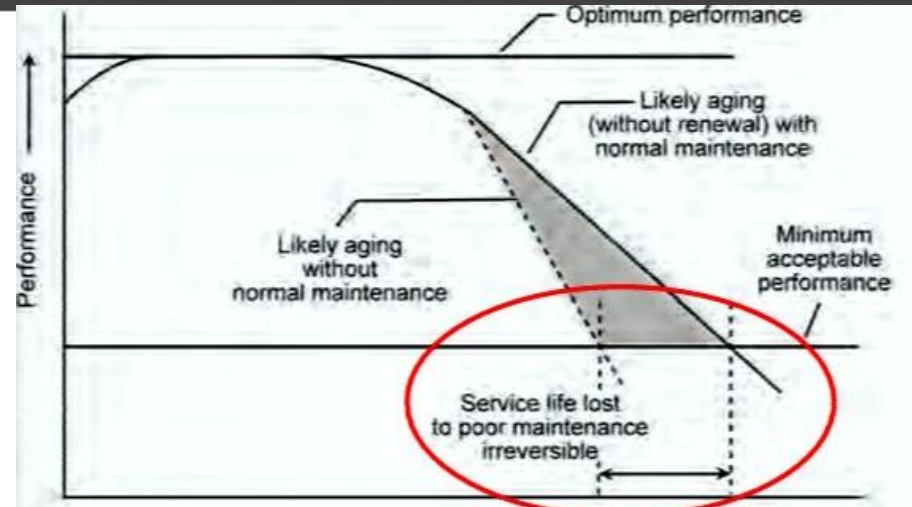
Sandia National Labs.

Main facility is Albuquerque, New Mexico.
689 buildings on 13,740 acres
10,000 people

FM begins at project handover



Steve Fattor



Data delivered at the end of construction is often incomplete – because

- **FM did not tell the contractor what he wanted**
- **Installation contractor does not understand the needs for servicing and maintaining the equipment he installed**
- **can take 6 months or more to manually load into CMMS**





To pay a lot of money to have data available is of no benefit to FM unless that data is useful

Steve Fattor, Sandia

Real Metrics : Data Import

Model (27,000 GSF)

- 900 assets
- 12,000 individual attributes



Manual Entry

- Submittals/Field Data collection = 6 Months
 - Data entry = 2-3 weeks
- TOTAL : ~ 7 months**



Direct Import

- IFC/COBie- Maximo Import
- TOTAL : 15 minutes**





The FM Team know how to operate and maintain standard common equipment but need special training and lots more information on new technology



“The biggest chill that goes up my spine is when I learn that one of our buildings just won an Architectural Award or just got LEED Certification”

Steve Fattor

CITA
BIM GATHERING



Delivering Structured Data



At a minimum

Federated IFC file

Set of native 3D model files

COBie File (Generally in excel form)

All PDFs referenced in the COBie file

Set of 2D drawings in PDF format

THIS WILL NOT REPLACE A SAFETY FILE



COBie (Construction Operations Building Information Exchange)



- Construction Operations Building Information Exchange**
- Performance Specification**
- Data exchange format – for Managed Assets**
- Can be delivered as XML data or as a Spreadsheet**
- Uses OmniClass or UniClass for classification**
- Does not need special software to use it**
- Developed to eliminate waste associated with paper based document exchanges**



Not a Data Requirement specification

Not an Asset Management System

Not an exchange format for systems, specifications or drawings.

No formal naming system

Not a substitute for a Safety File or Building Manual

Does not contain information on Civil or Structure

COBie Systems



	A	B	C	D	E	F	G	H	I
	Name	CreatedBy	CreatedOn	Category	ComponentName	ExtSystem	ExtObject	ExtIdentifier	Description
1									
2	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	AHU-1	n/a	n/a	n/a	Air Distribution System 1
3	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-A	n/a	n/a	n/a	Air Distribution System 1
4	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-AA	n/a	n/a	n/a	Air Distribution System 1
5	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-B	n/a	n/a	n/a	Air Distribution System 1
6	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-BB	n/a	n/a	n/a	Air Distribution System 1
7	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-BBB	n/a	n/a	n/a	Air Distribution System 1
8	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-C	n/a	n/a	n/a	Air Distribution System 1
9	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-CC	n/a	n/a	n/a	Air Distribution System 1
10	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-CCC	n/a	n/a	n/a	Air Distribution System 1
11	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-D	n/a	n/a	n/a	Air Distribution System 1
12	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-DD	n/a	n/a	n/a	Air Distribution System 1
13	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-DDD	n/a	n/a	n/a	Air Distribution System 1
14	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-EE	n/a	n/a	n/a	Air Distribution System 1
15	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-EEE	n/a	n/a	n/a	Air Distribution System 1
16	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-F	n/a	n/a	n/a	Air Distribution System 1
17	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-FF	n/a	n/a	n/a	Air Distribution System 1
18	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-FFF	n/a	n/a	n/a	Air Distribution System 1
19	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-G1	n/a	n/a	n/a	Air Distribution System 1
20	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-G2	n/a	n/a	n/a	Air Distribution System 1
21	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-GG	n/a	n/a	n/a	Air Distribution System 1
22	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-GGG	n/a	n/a	n/a	Air Distribution System 1
23	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-H	n/a	n/a	n/a	Air Distribution System 1
24	Air Distribution- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	21-51 51 16: Air Distribution	VAV-AHU1-HH	n/a	n/a	n/a	Air Distribution System 1

◀ ▶
Instruction
Contact
Facility
Floor
Space
Zone
Type
Component
System
Assembly
Connection
Spare
Resource
Job
Impact
Document
A

in Complex environments

COBie Type Tab



	A	B	C	D
1	Name	CreatedBy	CreatedOn	Category
2	AC Unit Type 1	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23-75 10 24 21 27: Unitary Air Conditioning Equipment
3	AC Unit Type 2	danielle.r.love@usace.army.mil	2011-09-14T16:57:54	23-75 10 24 21 27: Unitary Air Conditioning Equipment
4	AHU	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.75.35.14.17: Modular Indoor Air Handling Units
5	Air Cooled Chiller	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.75.10.24.21.21.21: Rotary-Screw Water Chillers
6	Air Cooled Condensing Unit- Large	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23-75 10 24 21: Cooling and Freeze Components
7	Air Cooled Condensing Unit- Small	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23-75 10 24 21: Cooling and Freeze Components
8	Air Separator	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23-75 50 17: Supply Air Treatment
9	Backflow Preventer	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.65.55.14.21: Non-Return Valves for Liquid Services
10	Ball Valve 100 mm	danielle.r.love@usace.army.mil	2011-09-14T16:57:54	23.65.55.14.17: Adjusting/Controlling Valves for Liquid
11	Ball Valve 150 mm	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.65.55.14.17: Adjusting/Controlling Valves for Liquid
12	Ball Valve 50 mm	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.65.55.14.17: Adjusting/Controlling Valves for Liquid
13	Ball Valve 65 mm	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.65.55.14.17: Adjusting/Controlling Valves for Liquid
14	Ball Valve 80 mm	danielle.r.love@usace.army.mil	2011-09-14T16:57:53	23.65.55.14.17: Adjusting/Controlling Valves for Liquid

COBie Component Tab



	A	B	C	D	E
	Name	CreatedBy	CreatedOn	TypeName	Space
1					
2	AC Unit Type 1 AC-1	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AC Unit Type 1	1B21
3	AC Unit Type 1 AC-2	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AC Unit Type 1	1C13
4	AC Unit Type 1 AC-3	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AC Unit Type 1	2B12
5	AC Unit Type 1 AC-4	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AC Unit Type 1	2C15
6	AC Unit Type 2 AC-5	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AC Unit Type 2	2D04
7	ACC-1	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Cooled Chiller	1F01
8	ACCU-1	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Cooled Condensing Unit- Small	Site
9	ACCU-2	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Cooled Condensing Unit- Small	Site
10	ACCU-3	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Cooled Condensing Unit- Small	Site
11	ACCU-4	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Cooled Condensing Unit- Small	2R02
12	ACCU-5	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Cooled Condensing Unit- Large	2R02
13	ADA shower Seat:17" Depth x 18 1/2" Width:17" Depth x 18 1/2" Width:443560	mariangelica.carrasquillo@usace.army.mil	2011-09-14T16:57:53	Shower Seat	2C07
14	ADA shower Seat:17" Depth x 18 1/2" Width:17" Depth x 18 1/2" Width:443641	mariangelica.carrasquillo@usace.army.mil	2011-09-14T16:57:53	Shower Seat	2C08
15	ADA shower Seat:17" Depth x 18 1/2" Width:17" Depth x 18 1/2" Width:443686	mariangelica.carrasquillo@usace.army.mil	2011-09-14T16:57:53	Shower Seat	1D18
16	AHU-1	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AHU	2D05
17	AHU-2	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	AHU	2D05
18	Air Separator AS-1	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Separator	1E15
19	Air Separator AS-2	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Air Separator	2D05
20	Backflow Preventer- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Backflow Preventer	1D20
21	Ball Valve 100 mm- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Ball Valve 100 mm	1E15
22	Ball Valve 150 mm- 01	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Ball Valve 150 mm	1E15
23	Ball Valve 50 mm- 001	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Ball Valve 50 mm	1E01
24	Ball Valve 50 mm- 002	danielle.r.love@usace.army.mil	2011-09-14T17:02:59	Ball Valve 50 mm	1E04

<	>	Instruction	Contact	Facility	Floor	Space	Zone	Type	Component	System	Assembly	Connection	Spare	Resource	Job	Impact	Document
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Other information exchange formats needed include:

HVACie - Heating and Ventilation Systems

WSie - Water Distribution

Sparkie - Electrical Systems

BIMSie - Building Services Interface

BAMie - Building Automation Modelling

BPie - Building Programming

LCie - Life Cycle Information

QTie - Quantity Take Off

SPie - Specifiers Properties Information

WALLie - Wall Information



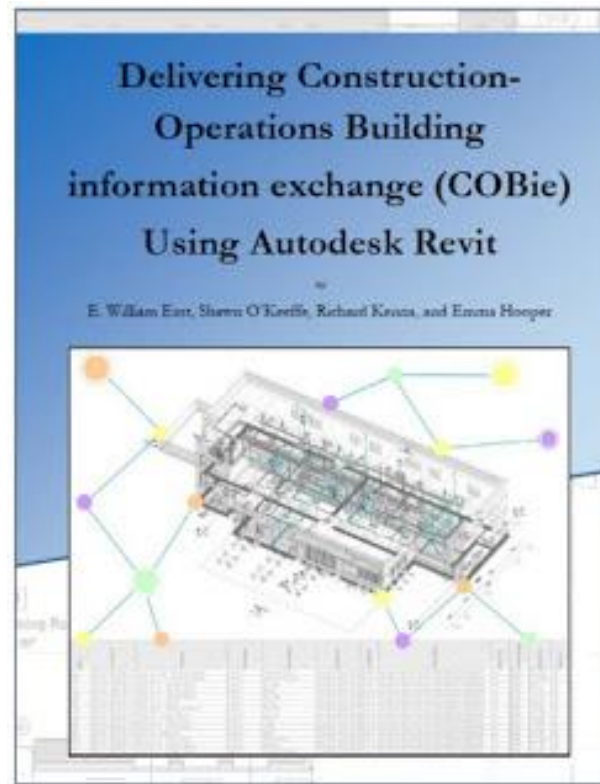
COBie





Delivering Construction- Operations Building information exchange (COBie) in GRAPHISOFT ARCHICAD

E. William East and Robert Jackson

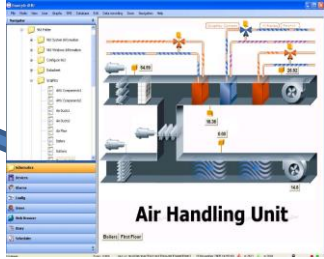
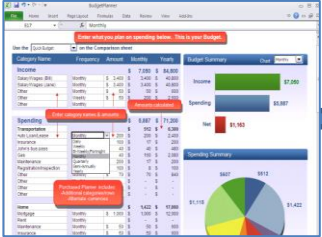


CitA
BIM GATHERING



Digital Safety File

Handover Documentation



Project: Demo Project Digital Facilities Manual Rev. D1 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Info Tools

Edit Info **DFM** Basic Expand Collapse Show Intro Search Print Preview Manager View BIM Model

Systems View Data Reports Manager IFC

Narrative **Documents (66)** Drawings (22) Assets (50)

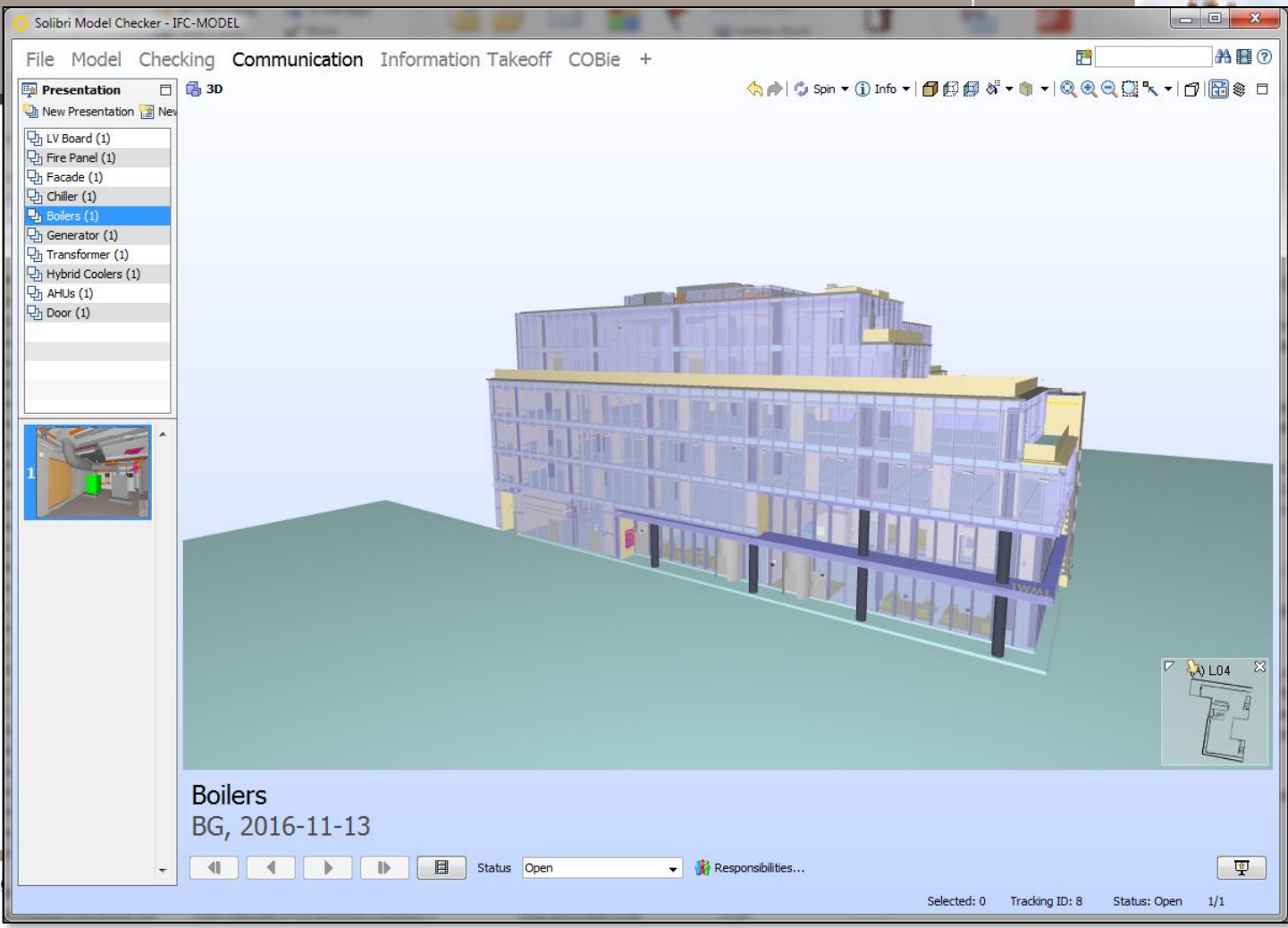
Drag a column header here to group by that column

No	Title	Type	Sub Folder	FileNam
DFM-D-000171	AHU Performance Specifications	Technical Data	Ventilation & Air Conditioning (39)\A	AHU Pe
DFM-D-000172	AHU Attenuator Insertion Loss Data	Technical Data	Ventilation & Air Conditioning (39)\A	Attenua
DFM-D-000173	AHU Coil Data	Technical Data	Ventilation & Air Conditioning (39)\A	Coil Dat
DFM-D-000174	AHU Coil Flow Parameters	Technical Data	Ventilation & Air Conditioning (39)\A	Coil Flo
DFM-D-000175	AHU Controls Listing	Technical Data	Ventilation & Air Conditioning (39)\A	Control
DFM-D-000176	AHU Fan Motor Schedule	Technical Data	Ventilation & Air Conditioning (39)\A	Fan Mot
DFM-D-000177	AHU Fan Pressure and Curve Data	Technical Data	Ventilation & Air Conditioning (39)\A	Fan Pres
DFM-D-000178	AHU Noise Data	Technical Data	Ventilation & Air Conditioning (39)\A	Noise D
DFM-D-000179	AHU 4A Revised Noise Data	Technical Data	Ventilation & Air Conditioning (39)\A	Noise A
DFM-F-000002	Fault Finding Guide	Operation and Maintenance	Ventilation & Air Conditioning (39)\E	Fault Fir
DFM-F-000003	Split Indoor Troubleshooting	Operation and Maintenance	Ventilation & Air Conditioning (39)\S	Split Ind
DFM-P-000012	TDR605 Air Conditioning Indoor Unit Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\S	Split Ind
DFM-P-000016	DTA60 Outdoor Unit Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\E	EDPAC J
DFM-P-000018	DTA60 InDoor A.C. Unit Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\E	DTA_FT
DFM-P-000059	TDR254/604 & CR254/604 Full Sanyo Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\S	Sanyo S
DFM-P-000060	Sanyo AC Units Service Procedures	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	Sanyo A
DFM-P-000061	Sanyo AC Units Process & Functions	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	AC Unit
DFM-P-000062	Sanyo Wireless Remote Receiver Installation Instructions	Operation and Maintenance	SPRINKLER SYSTEM (228)\	O&M N
DFM-P-000063	Sanyo Outdoor Unit Controller User Guide	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	Outdoo
DFM-P-000079	Tourniket Crystal Revolving Door O&M	Operation and Maintenance	Cladding and External Glazing (18)\A	Tournik
DFM-P-000118	AHU General O&M Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	AHU O&
DFM-P-000118	AHU General O&M Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	AHU O&
DFM-P-000120	Trane RTAD O&M Manual	Operation and Maintenance	Chilled Water Services (94)\	RTAD IC
DFM-P-000120	Trane RTAD O&M Manual	Operation and Maintenance	Chilled Water Services (94)\	RTAD IC
DFM-P-000122	Riello R40 Gas Burner	Operation and Maintenance	Fire Hosereels (97)\	O&M N
DFM-P-000122	Riello R40 Gas Burner	Operation and Maintenance	Fire Hosereels (97)\	O&M N
DFM-P-000125	Killarney Plastics O&M Manual	Operation and Maintenance	Domestic Water Services (95)\	Section
DFM-P-000271	Byrne Woodcraft O&M Manual	Operation and Maintenance	Carpentry (84)\	scan040
DFM-P-000301	X095-X605 4-way Cassette O&M	Operation and Maintenance	Ventilation & Air Conditioning (39)\V	VRF Indr

66

Systems in Project: 138 Data Path: W:_DFM SYSTEMS\Program Files\Files\Projects\DFM\Data5 Powered by Computech 2015 Software Version: 5.3.4.213 DB Version: 5.3.0.90

View information in a BIM Model



Solibri Model Checker - IFC-MODEL

File Model Checking Communication Information Takeoff COBie +

Presentation 3D

- New Presentation
- LV Board (1)
- Fire Panel (1)
- Facade (1)
- Chiller (1)
- Boilers (1)**
- Generator (1)
- Transformer (1)
- Hybrid Coolers (1)
- AHUs (1)
- Door (1)

Info

(C) Object.-1.40

Identification	Location	Quantities	Relations	Classification	Hyperlinks
Pset_BuildingElementProxyCommon		Pset_ManufacturerTypeInformation			
General		Identity Data		Mechanical	Other Phasing
Constraints	Data	Digital_Safety_File	Dimensions	Electrical	Electrical - Loads
Property		Value			
DFM Link	\DFMLink\IC_1DD53CEB5214187A9D9D917...				
DFM Online Link	http://cloud.dfmsystems.com?MD5=f3ba...				

Click on Link to open the Safety File at the correct location

Select Boiler

0 mm

Open Responsibilities...

Selected: 0 Tracking ID: 8 Status: Open 1/1

InControl DFM 5 Project: 1WML Digital Facilities Manual Rev. 4 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Warranties Maintenance Life Cycle Info Tools

New Edit Delete Refresh Duplicate Expand Collapse View Search Notes Action Print Preview Reports Manager

Drag a column header here to group by that column


No	Title	System
DFM-D-000009	Fire Alarm Panel	6.04 - Fire Alarm
DFM-E-000006	Fire Alarm Panel	6.04 - Fire Alarm
DFM-E-000007	Fire Alarm Panel	6.04 - Fire Alarm
WCC-01	Water Cooled Chiller	8.02 - Chilled Water Service
WCC-02	Water Cooled Chiller	8.02 - Chilled Water Service
WCC-03	Water Cooled Chiller	8.02 - Chilled Water Service
GEN-01	Generator	6.07 - Generator
L-MSB	Landlord MSB	6.10 - LV Installation
DFM-E-000008	Fire Door	4.03 - Doors & Ironmongery
B1	Boiler	8.07 - Low Pressure Hot Water Services
B2	Boiler	8.07 - Low Pressure Hot Water Services
HDC 01	Hybrid Cooler (Condenser)	8.02 - Chilled Water Service
HDC 02	Hybrid Cooler (Condenser)	8.02 - Chilled Water Service
HDC 03	Hybrid Cooler (Condenser)	8.02 - Chilled Water Service
DFM-E-000319	Facade	3.02 - External Cladding, Windows & Glazing
DFM-E-000349	# Atrium Stone Supports	3.02 - External Cladding, Windows & Glazing
AHU 1	Air Handling Unit	8.10 - Ventilation
AHU 2	Air Handling Unit	8.10 - Ventilation
AHU 3	Air Handling Unit	8.10 - Ventilation
AHU 4	Air Handling Unit	8.10 - Ventilation
AHU 5	Air Handling Unit	8.10 - Ventilation

General Location Documents Picture Warranty Maintenance Life Cycle

R3400-R3500-R3600SB-Operation-and-Installation-manual.pdf - Adobe Reader



Open 1 / 204 54.6% Tools Fill & Sign

R3400/R3500/R3600SB



- GB** Operation and Installation manual for authorized technicians only
- DE** Betriebsanleitung für die autorisierte Fachkraft
- NL** Bedieningshandleiding alleen voor de autorisatiehoudende
- FR** Notice d'usage réservée à l'usage des techniciens agréés
- IT** Istruzioni per l'uso solo per il tecnico autorizzato

Internal viewer for PDFs etc

Project: Demo Project Digital Facilities Manual Rev. D1 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Info Tools

Edit Info DFM Basic Expand Collapse Show Intro Search Print Preview Manager View BIM Model Systems View Data Reports IFC

1 - GENERAL PROJECT INFORMATION
 2 - SITE & EXTERNAL
 3 - STRUCTURE
 4 - INTERNAL FABRIC AND FINISHES
 5 - LIFTS AND ESCALATORS
 6 - MECHANICAL SERVICES
 6.1 - Chilled Water Services
 6.2 - Domestic Water Services
 6.3 - Dry Riser System
 6.4 - Fire Extinguishers
 6.5 - Fire Hosereels
 6.6 - Fire Suppression System
 6.7 - Gas Detection
 6.8 - Leak Detection System
 6.9 - LPHW System
 6.10 - New Doors
 6.11 - Pneumatic Tube System
 6.12 - Reverse Osmosis
 6.13 - Sanitary Ware
 6.14 - Soils and Wastes
 6.15 - Ventilation & Air Conditioning
 6.16 - Watermist System
 7 - ELECTRICAL SERVICES
 8 - SECURITY SYSTEMS

Narrative Documents (22) Drawings (20) Assets (21)

Drag a column header here to group by that column

No	Title	Type	Sub Folder	FileName
DFM-P-00063	Sanyo Outdoor Unit Controller User Guide	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	Outdoor Co
DFM-P-000118	AHU General O&M Manual	Operation and Maintenance	Ventilation & Air Conditioning (39)\A	AHU O&M
DFM-P-000122	Riello R40 Gas Burner	Operation and Maintenance	Fire Hosereels (97)\	O&M No 1
DFM-P-000328	Gas Fire Water Heater O&M Manual	Operation and Maintenance	Domestic Water Services (95)\	HeatMaster
DFM-P-000328	Gas Fire Water Heater O&M Manual	Operation and Maintenance	Domestic Water Services (95)\	HeatMaster
DFM-P-000345	Door	Operation and Maintenance	LPHW System (93)\	Door.pdf
DFM-SP-000016	Boiler Spare Parts List	Operation and Maintenance	LPHW System (93)\	Doc2062 R6
DFM-C-000044	Pump Declaration Certificates	Tests and Certification	Chilled Water Services (94)\	Pump Decl
DFM-C-000046	Pumps Licence & Test Certificates	ertification	Chilled Water Services (94)\	Pumps Lice
DFM-C-000453	Commissioning - LPHW - Radiator	ertification	MooreDFM\	TEST & CEP
DFM-C-000454	Commissioning - LPHW - FCU's	ertification	MooreDFM\	TEST & CEP
DFM-C-000455	Commissioning - LPHW - AHU's	ertification	MooreDFM\	TEST & CEP
DFM-C-000456	Commissioning Calibration Certificates	Tests and Certification	MooreDFM\	TEST & CEP
DFM-C-000486	Boiler CE Cert	Tests and Certification	MooreDFM\	TEST & CEP
DFM-C-000511	Pressurisation Unit Commissioning	Tests and Certification	MooreDFM\	TEST & CEP
DFM-C-000567	Flamco 225 D - LPHW Commissioning Cert	Tests and Certification	MooreDFM\	TEST & CEP
DFM-C-000578	Heating Pipework Pressure Test Cert	Tests and Certification	MooreDFM\	TEST & CEP
DFM-C-000579	Radiator Pipework Pressure Test Cert	Tests and Certification	MooreDFM\	TEST & CEP
DFM-D-000058	Sanyo CR604 Wiring Diagram	General Info	Ventilation & Air Conditioning (39)\A	CR 604 Wirin
DFM-D-000058	Sanyo CR604 Wiring Diagram	General Info	Ventilation & Air Conditioning (39)\A	CR 604 Wirin
DFM-DS-000062	Tender Spec - 51 - LPHW	Design Specs	MooreDFM\	Design Spe
DFM-C-000045	Pumps Guarantee	Certs & Warranties	Chilled Water Services (94)\	Pumps Gua

All Documents in one place - specific to each system

22

Systems in Project: 138 Data Path: W:\DFM SYSTEMS\Program Files\Files\Projects\DFM\Data5 Powered by Computech 2015 Software Version: 5.3.4.213 DB Version: 5.3.0.90

ALL DOCUMENTS IN ONE PLACE

InControl DFM 5
Project: Demo Project
Digital Facilities Manual Rev. D1 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Info Tools

Edit Info DFM Basic Expand Collapse Show Intro Search Print Preview Manager View BIM Model
Systems View Data Reports IFC

Narrative Documents (66) Drawings (22) **Assets (50)**

Drag a column header here to group by that column

No	Title	Model	Supplier	File Name
				AHU 1 Drawing.pdf
				F6-F8 Bag Filter Data Shee
				G4 Panel Filter Data Sheet.
				Heat Exchanger Data.PDF
				SK (VSD) Manual.pdf
				AHU 2 Drawing.pdf
				AHU 3 Drawing.pdf
				AHU 4 Drawing.pdf
				AHU 4A Drawing.pdf
				AHU 5 Drawing.pdf
				AHU 5A Drawing.pdf
				AHU 6 Drawing.pdf
				AHU 6A Drawing.pdf
				DIC_300-4-1[1].pdf
				Box BD - DIC.pdf
				...

Keyword: Search

Search in:

Systems Drawings
 Documents Assets

Search Results:

Type	No	Title
Tests and Certification	DFM-C-000495	Attenuation Pump Commissioning
Tests and Certification	DFM-C-000497	Basement Grey Water Pump Control Panel
Tests and Certification	DFM-C-000492	De-Watering Pump No 1 Commissioning
Tests and Certification	DFM-C-000493	De-Watering Pump No 2 Commissioning
Tests and Certification	DFM-C-000490	Fremans Lift Pit Sump Pump No 1 Commissioning
Tests and Certification	DFM-C-000491	Fremans Lift Pit Sump Pump No 2 Commissioning
Tests and Certification	DFM-C-000431	Foul Pump Commissioning Cert
Tests and Certification	DFM-C-000616	Grunfos Pumps Warranty
Tests and Certification	DFM-C-000494	Storm Water Pump Commissioning
Certs & Warranties	DFM-C-000045	Pumps Guarantee
Certs & Warranties	DFM-D-000646	Warranty for Pump

Records found: 72

Locate Close

Folder	FileName
DFM-D-000171	AHU Performance Specifications
DFM-D-000172	AHU Attenuator Insertion Loss Data
DFM-D-000173	AHU Coil Data
DFM-D-000174	AHU Fan Pressure and Curve Data
DFM-D-000175	AHU Noise Data

Systems in Project: 138 Data Path: W:_DFM SYSTEMS\Program Files\Files\Projects\DFM\Data5

Powered by Computech 2015 Software Version: 5.3.4.213 DB Version: 5.3.0.90

SEARCH ENGINE

Project: Demo Project Digital Facilities Manual Rev. D1 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Info Tools

Edit Info DFM Basic Expand Collapse Show Intro Search Print Preview Manager View BIM Model
Systems View Data Reports IFC

Narrative Documents (22) Drawings (20) Assets (21)

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 - 6.5 - Fire Hosereels
 - 6.6 - Fire Suppression System
 - 6.7 - Gas Detection
 - 6.8 - Leak Detection System
 - 6.9 - LPHW System
 - 6.10 - New Doors
 - 6.11 - Pneumatic Tube System
 - 6.12 - Reverse Osmosis
 - 6.13 - Sanitary Ware
 - 6.14 - Soils and Wastes
 - 6.15 - Ventilation & Air Conditioning
 - 6.16 - Watermist System
- 7 - ELECTRICAL SERVICES
- 8 - SECURITY SYSTEMS

HeatMaster® **HM**

Installation, operating and servicing instructions

HeatMaster® 71
HeatMaster® 101

ENGLISH
FRANCAIS
NEDERLANDS

INTERNAL DOCUMENT VIEWER

EN:1 (1 of 44)

Systems in Project: 138 Data Path: W:_DFM SYSTEMS\Program Files\Files\Projects\DFM\Data5 Powered by Computech 2015 Software Version: 5.3.4.213 DB Version: 5.3.0.90

Project: Sample Project Digital Facilities Manual Rev. 45 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Warranties Maintenance Life Cycle Info Tools

New Edit Refresh Duplicate Expand Collapse View Search Notes Print Preview Manager

Asset Action Reports

Drag a column header here to group by that column

No	Title	System	Model
	Air Differential Pressure Transmitter	4.27.01 - Controls (BMS) System	Model PA
Demo	Air Dirt Separator	6.01 - Chilled Water Services	VC 300F
01ZCL4AHU0001	Air Handling Unit No 1	6.14 - Ventilation & Air Conditioning	DA 60.20
Demo	Air Handling Unit No 2	6.14 - Ventilation & Air Conditioning	DA 60.20
Demo	Air Handling Unit No 3	6.14 - Ventilation & Air Conditioning	DA 30.15
Demo	Air Handling Unit No 4	6.14 - Ventilation & Air Conditioning	DA 20.15
Demo	Air Handling Unit No 4A	6.14 - Ventilation & Air Conditioning	DA 20.15
Demo	Air Handling Unit No 5	6.14 - Ventilation & Air Conditioning	DA 25.20
Demo	Air Handling Unit No 5A	6.14 - Ventilation & Air Conditioning	DA 15.10
Demo	Air Handling Unit No 6	6.14 - Ventilation & Air Conditioning	DA 20.15
Demo	Air Handling Unit No 6A	6.14 - Ventilation & Air Conditioning	DA 10.10
DFM-E-000186	Air Vent - Dry Riser	6.03 - Dry Riser System	
Demo	Alarm Sounder - Inergen System	-	
Demo	Alternator	7.11 - Generator Set	7000
DFM-E-000543	Alternator	7.11 - Generator Set	7000
DFM-E-000178	Anchor Bolts	3.24 - Stone Cladding	Supergrig
Demo	Attenuation Sump Pump	3.22 - Site Drainage	KP 350 M
DFM-E-000100	Automatic Source Changeover Switch	7.12 - L.V Power Distribution	Merlin G
DFM-E-000102	Automatic Transfer Switches	7.12 - L.V Power Distribution	ATyS 6 L
DFM-E-000184	Automation for Blinds	3.02 - Blinds	Mechosh
	Basement Greywater Control Panel	4.27.01 - Controls (BMS) System	
	Basement Landlord Control Panel	4.27.01 - Controls (BMS) System	
DFM-E-000650	Basement		
	Basement		
DFM-E-000649	Basement		
	Basement Tenant Control Panel	4.27.01 - Controls (BMS) System	
DFM-E-000566	Basement WC	4.27 - Toilets Cubicles	Create Ec
DFM-E-000564	Basin	4.27 - Toilets Cubicles	Tempo E
Demo	Bench Mounted Scales	4.25 - Tea Point, Cold Room, & Catering	Jadever J
DFM-E-000640	Bin Cut-Out	4.25 - Tea Point, Cold Room, & Catering	Custom I

Documents Picture Warranty Maintenance Life Cycle

No: 01ZCL4AHU0001 Category:

Title: Air Handling Unit No 1

Description: AHU23

System: Ventilation & Air Conditioning

Model: DA 60.20 Qty: 1

Serial No: 01ZCL4AHU0001

Schedule: 15

Location: Roof

Source:

Supplier: Danann

Manufacturer:

Serving: Zone C Level 4

Warranty: 24 Months

Maint: 12 Months

File Name: AHU 1 Drawing.pdf

Sub Folder: Ventilation & Air Conditioning (39)

Manual Rev: 45

588

Systems in Project: 139 Data Path: W:\DFM SYSTEMS\Program Files\Files\Projects\DFM>Data5

Powered by Computech 2016 Software Version: 5.3.8.246 DB Version: 5.3.0.90

FULL ASSET REGISTER / DATABASE

InControl DFM 5 Project: Sample Project Digital Facilities Manual Rev. 45 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Warranties Maintenance Life Cycle Info Tools

Expand Collapse View Search Notes Action Print Preview Reports Manager

Drag a column header here to group by that column

Active	Object Title	Warranty Title	Duration (months)	Start	Finish	Object Tag
<input type="checkbox"/>	AHU Variable Speed Drive	Danann warranty				DFM-E-000342
<input checked="" type="checkbox"/>	AHU Bag Filter	Danann warranty				DFM-E-000339
<input checked="" type="checkbox"/>	AHU Heat Exchanger	Danann warranty				DFM-E-000341
<input checked="" type="checkbox"/>	AHU Panel Filter	Danann warranty				DFM-E-000340
<input checked="" type="checkbox"/>	Soprema Roofing System	Sopracover				DFM-E-000819
<input checked="" type="checkbox"/>	Green roof 50mm	Green cover	240	01/06/2000	01/06/2020	DFM-E-000816
<input checked="" type="checkbox"/>	Butiminous Roofing Systems	Butiminous Roof Systems Cover	240	01/01/2005	01/01/2016	DFM-E-000820
<input checked="" type="checkbox"/>	Flat Roof	Flat Cover	240	31/12/2008	31/12/2016	DFM-E-000815
<input checked="" type="checkbox"/>	Green Roof w Pitch 15-45	Green cover	240	12/01/2016	12/01/2036	DFM-E-000818
<input checked="" type="checkbox"/>	Air Handling Unit No 1	Air Handling Unit 1	24	06/06/2016	16/06/2018	01ZCL4AHU0001
<input checked="" type="checkbox"/>	Green Roof light-weight	Green cover	240	22/06/2016	22/06/2036	DFM-E-000817

Active

Warranty: Danann warranty

Duration: (Months)

Start: Finish:

Object Tag: DFM-E-000342

Object Title: AHU Variable Speed Drive

Conditions:

All Danann equipment is guaranteed and comes with a warranty, 12 months from startup, 18 months from delivery, whichever is sooner.

Instructions:

11

Systems in Project: 138 Data Path: W:\DFM SYSTEMS\Program Files\Files\Projects\DFM\Data5 Powered by Computech 2016 Software Version: 5.3.8.246 DB Version: 5.3.0.90

WARRANTIES & GUARANTIES

InControl DFM 5 Project: Sample Project Digital Facilities Manual Rev. 45 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Warranties Maintenance Life Cycle Info Tools

Expand View Collapse View Search Action Notes Print Preview Reports Manager

Drag a column header here to group by that column

Object Tag	Object Title	Notes	Maint. Free	Regularly	Daily	Bi-Daily	Weekly	Bi-Weekly	Monthly	Bi-Monthly	Quarterly
01ZCL44HU0001	Pump - Base Mounted:6.3 LPS - 388 kPa Hea						✓		✓		✓
DFM-E-000099	Air Handling Unit No 1								✓		
DFM-E-000339	Door Handles								✓		
DFM-E-000339	AHU Bag Filter	📄							✓		
DFM-E-000340	AHU Panel Filter	📄							✓		
DFM-E-000341	AHU Heat Exchanger	📄							✓		
DFM-E-000342	AHU Variable Speed Drive	📄							✓		
DFM-E-000406	Carpark Bollard										
DFM-E-000533	VF-04 -Vinyl Flooring - Ground Floor Scanni			✓							
DFM-E-000534	VF-03-Vinyl Flooring - Catering Kitchen Area			✓							
DFM-E-000535	VF-02-Vinyl Flooring - Tea Points,Stagger Pc				✓						
DFM-E-000536	VF-05-Vinyl Flooring - Heavy Duty Goods Lif	📄		✓							
DFM-E-000539	CP-01-General Carpet Tiles	📄									
DFM-E-000745	Roof Type 1										✓
DFM-E-000815	Flat Roof										✓
DFM-E-000816	Green roof 50mm				✓	✓					✓
DFM-E-000817	Green Roof light-weight	📄			✓	✓					✓
DFM-E-000818	Green Roof w Pitch 15-45	📄			✓						✓
DFM-E-000820	Butiminous Roofing Systems										
Demo	Air Handling Unit No 3								✓		✓
Demo	Air Handling Unit No 2								✓		✓
Demo	Air Handling Unit No 4								✓		✓
Demo	Air Handling Unit No 4A								✓		✓
Demo	Air Handling Unit No 5								✓		✓
Demo	Air Handling Unit No 5A								✓		✓
Demo	Air Handling Unit No 6								✓		✓
Demo	Air Handling Unit No 6A								✓		✓
Demo	Extract Fan										
See Schedule	Air Conditioning Outdoor Unit										
See Schedule	Air Conditioning Outdoor Unit - Server Room										✓
See Schedule	4-way Cassette			✓					✓		
See Schedule	4-way Cassette			✓					✓		
See Schedule	4-way Cassette			✓					✓		

No: DFM-E-000816
 Title: Green roof 50mm

Frequency	Action
Daily	(FIRST YEAR AFTER INSTALLATION) During dry/hot weather (especially during the first month after installation) structural watering in the morning or evening is necessary;
Bi-Daily	During dry/hot weather (more than 2 weeks), watering every two days in the morning or evening
Quarterly	(FIRST YEAR AFTER INSTALLATION) Removal (weeding) of unrequired vegetation (approx. 2 to 4 times a year during the grow season April until November);
Quarterly	(FOLLOWING YEARS) Removal (weeding) of unrequired vegetation (approx. 2 to 4 times a year during the grow season April until November);
Half-Yearly	(FIRST YEAR AFTER INSTALLATION) Cleaning the vegetation free zone from weeds and other vegetation (approx. 2 times a year);
Half-Yearly	(FIRST YEAR AFTER INSTALLATION) Inspecting and cleaning the roof outlets (approx. 2 times a year).
Half-Yearly	(FOLLOWING YEARS) Inspecting and cleaning the roof outlets (approx. 2 times a year);
Half-Yearly	(FOLLOWING YEARS) Cleaning the vegetation free zone from weeds and other vegetation (approx. 2 times a year);
Half-Yearly	(FOLLOWING YEARS) Applying a special fertilizer for extensive roofs (once a year in the Spring, approx. 100g/m ²);

MAINTENANCE

InControl DFM 5 Digital Facilities Manual Rev. 4 (Unpublished)

Exit O and M Documents Drawings Asset Register Contacts Maintenance Info Tools

New Edit Refresh Duplicate Expand Collapse Search Notes Print Preview Manager

Asset View Action Reports

Drag a column header here to group by that column

	Title	System
7	Curtains	2.01 - Blinds
7	Distribution Board	3.01 - Distribution
5	Brick Effect Vinyl	2.02 - Brick Effect Vinyl
5	Brick Slips	2.03 - Brick Slips
4	Ceilings	2.04 - Ceilings
3	Fire Stopping	2.05 - Fire Stopping
2	Floor Finishes	2.06 - Floor Finishes
1	Drain Cock	4.07 - LPHW Installation
1	Glazed Partitions	2.07 - Glazed Partitions
	Internal Doors & Ironmongery	2.08 - Internal Doors & Ironmo
	Strainer	4.07 - LPHW Installation
	Air Conditioning Unit DX-03/04	4.01 - Air Conditioning & Vent
	Commissioning Set	4.07 - LPHW Installation
	Condenser Unit ACCU-02	4.01 - Air Conditioning & Vent
	Partitions	2.09 - Internal Walls and Partiti
	Condenser Unit AC	
	Flypass	
	Joinery	2.10 - Joinery Finishes & Fitted
	Painting	2.12 - Painting & Decorating
	Roller Shutter Door	2.14 - Roller Shutter Door

General Location Documents Picture Warranty Maintenance Life Cycle

Expected life: (Year)
 Remaining life: (Year)
 Year installed:
 Condition grade:

LIFE CYCLE ASSET MANAGEMENT

Systems in Project: 40 Data Path: C:\Databases\Tallaght\Data5 Powered by Computech 2016 Software Version: 5.3.7.239 DB Version: ...

CitA
BIM GATHERING



COBie Import / Export

COBie Import



COBIE Importer

DFM Importer

COBIE Spreadsheet: 2013-03-28-Clinic-Handover-v13.xlsx (EF16)

Import Export Import Export Clear COBIE Data

Instruction Contacts Facility Floor Space Zone Type (15) Component (5) System (2) Assembly Connection Spare (4) Resource (2) Job Impact Document (55) Attribute

Drag a column header here to group by that column

ID	Name	Created By	Created On	Category	Description
1	AC Unit Type 1	danielle.r.love@us			Fan Coil
2	AC Unit Type 2	danielle.r.love@us			Fan Coil
3	AHU	danielle.r.love@us			J
4	Air Compressor - Dental	mariangelca.carras			ckaged Assemb
5	Air Cooled Chiller	danielle.r.love@us			W
6	Air Cooled Condensing Unit - Lar	danielle.r.love@us			Capacity
7	Air Cooled Condensing Unit - Sm	danielle.r.love@us			Capacity
8	Air Separator	danielle.r.love@us			Air Separator
9	Backflow Preventer	danielle.r.love@us			
10	Ball Valve 100 mm	danielle.r.love@us			
11	Ball Valve 150 mm	danielle.r.love@us			
12	Ball Valve 50 mm	danielle.r.love@us			
13	Ball Valve 65 mm	danielle.r.love@us			
14	Ball Valve 80 mm	danielle.r.love@us			
15	BLOOD GAS ANALYZER	danielle.r.love@us			AS ANALYZER
16	Bolter	danielle.r.love@us			eat Draft, Natur
17	Cabinet Type A	mariangelca.carras			et-Double Door
18	Cabinet Type B	mariangelca.carras			et-Double Doc
19	Cabinet Type C	mariangelca.carras			et-Single Door
20	Counter Top	mariangelca.carras			op 600mm Dep
21	Counter Top - L Shaped	mariangelca.carras			Counter Top 60
22	Defibrillator	danielle.r.love@us			
23	DirectDigitalControl-DDC-Panel	mariangelca.carrasquillo@usace.army.mil		21-81 61 62 21: HVAC Measurement and Control	Direct Digital Control (DDC
24	Door Type A	mariangelca.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Solid Core Wood - 0
25	Door Type B	mariangelca.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Solid Core Wood w/
26	Door Type C	mariangelca.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Lead Lined Flush Solid Cor
27	Door Type D	mariangelca.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Folding Accordion Partitior
28	Door Type E	mariangelca.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Steel - 0915 x 2134
29	Door Type F	mariangelca.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Steel w/Glass - 0915

Import Excel File

Look in: Medical Clinic

Name	Date modified	Type
doc	21/11/2017 10:19	File folder
2013-03-28-Clinic-Handover-v13.xlsx	28/03/2013 15:23	Microsoft
New COBie.xlsx	21/11/2017 10:49	Microsoft

File name: 2013-03-28-Clinic-Handover-v13.xlsx

Files of type: Excel File (*.xls; *.xlsx)

Documents

Drag a column header here to group by that column

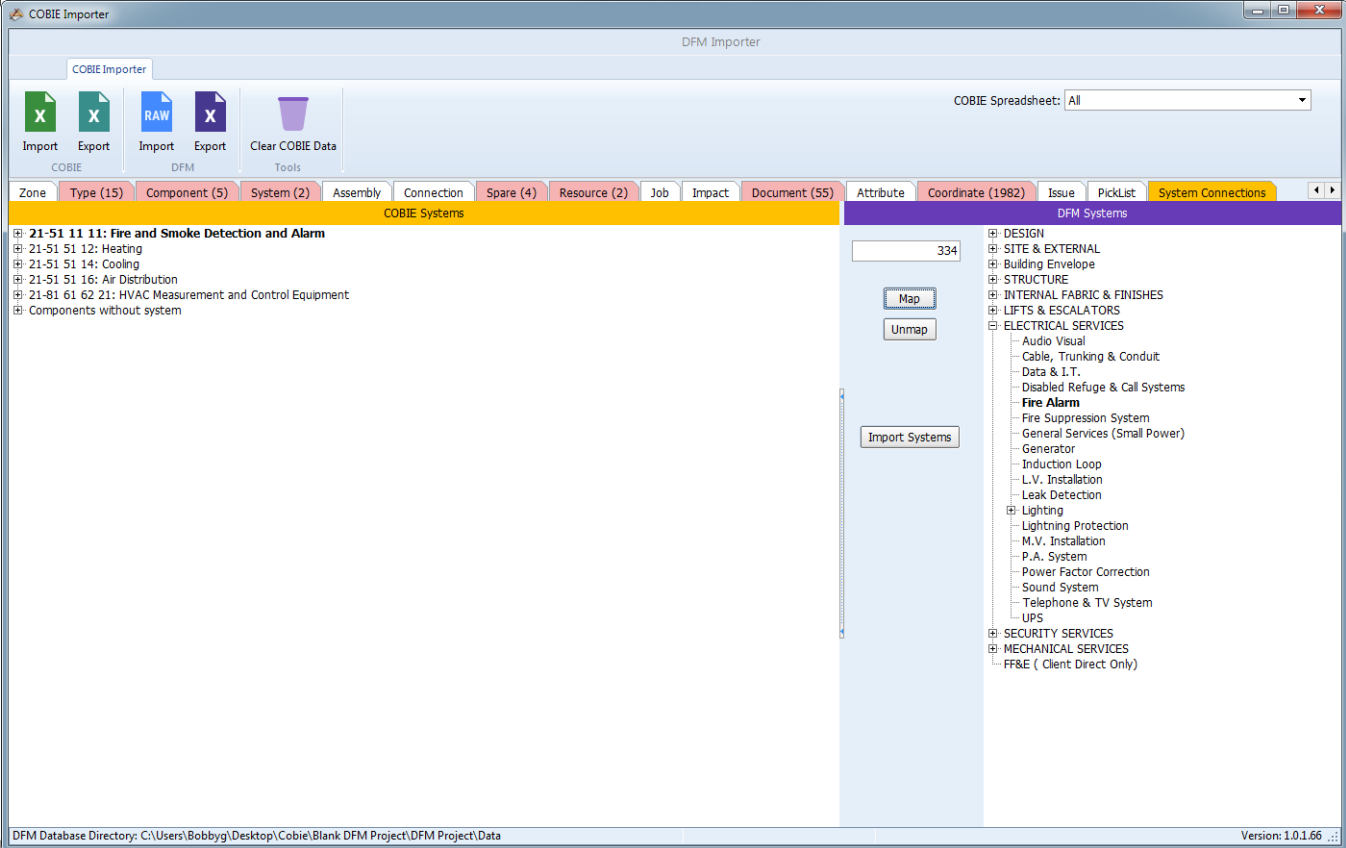
Name	Description
AC Unit Type 1 Product Data	n/a
AC Units and ACCUs-Manufacturers Equip	n/a
AC Units and ACCUs-Operations and Main	n/a
AC Units and ACCUs-Operator Servicing R	n/a
AC Units and ACCUs-Preventative Maint	n/a
AC Units and ACCUs-Preventive Maintena	n/a

DFM Database Directory: C:\Users\Bobby\Desktop\Cobie\Blank DFM Project\DFM Project\Data

IMPORT from Excel: 00:00:54

Version: 1.0.1.66

COBie Import



The screenshot shows the COBie Importer application window. At the top, there are buttons for Import and Export for COBie and DFM files, and a Clear COBie Data button. A dropdown menu shows 'COBie Spreadsheet: All'. Below this is a ribbon with tabs for Zone, Type (15), Component (5), System (2), Assembly, Connection, Spare (4), Resource (2), Job, Impact, Document (55), Attribute, Coordinate (1982), Issue, PickList, and System Connections. The System Connections tab is active, showing a tree view of COBie Systems. The tree includes categories like Fire and Smoke Detection and Alarm, Heating, Cooling, and HVAC Measurement and Control Equipment. A central pane shows a value of 334 with Map and Unmap buttons, and an Import Systems button. On the right, a detailed tree view of DFM Systems is visible, including categories like DESIGN, SITE & EXTERNAL, BUILDING ENVELOPE, STRUCTURE, INTERNAL FABRIC & FINISHES, LIFTS & ESCALATORS, ELECTRICAL SERVICES, SECURITY SERVICES, and MECHANICAL SERVICES. The status bar at the bottom shows the DFM Database Directory path and the version number 1.0.1.66.

COBie Import



COBIE Importer

DFM Importer

COBIE Spreadsheet: 2013-03-28-Clinic-Handover-v13.xlsx (EF16)

Import Export Import Export Clear COBIE Data

COBIE DFM Tools

Instruction Contacts Facility Floor Space Zone Type (15) Component (5) System (2) Assembly Connection Spare (4) Resource (2)

Job Impact Document (55) Attribute

Drag a column header here to group by this column

ID	Name	Created By	Created On	Category	Description
1	AC Unit Type 1	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21 27: Unitary Air Conditioning E	Horiz. D.X. Fan Coil
2	AC Unit Type 2	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21 27: Unitary Air Conditioning E	Horiz. D.X. Fan Coil
3	AHU	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 35 14 17: Modular Indoor Air Handling	63300000 J
4	Air Compressor - Dental	mariangelica.carrasquillo@usace.army.mil	28/01/2013 16:24:00	23-65 55 11 11: Gas Compressors/Vacuum P	Duplex Packaged Assemb
5	Air Cooled Chiller	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21 21: Rotary-Screw Water C	633-703 kW
6	Air Cooled Condensing Unit- Lar	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21: Cooling and Freeze Compon	3500 Watt Capacity
7	Air Cooled Condensing Unit- Sm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21: Cooling and Freeze Compon	2500 Watt Capacity
8	Air Separator	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 50 17: Supply Air Treatment	Centrifugal Air Separator
9	Backflow Preventer	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 21: Non-Return Valves for Liquid	20 mm
10	Ball Valve 100 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	100 mm
11	Ball Valve 150 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	150 mm
12	Ball Valve 50 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	50 mm
13	Ball Valve 65 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	65 mm
14	Ball Valve 80 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	80 mm
15	BLOOD GAS ANALYZER	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-40 70 11 14 11: Medical Equipment	BLOOD GAS ANALYZER
17	Cabinet Type A	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Base Cabinet-Double Door
18	Cabinet Type B	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Upper Cabinet-Double Doc
19	Cabinet Type C	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Upper Cabinet-Single Door
20	Counter Top	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Counter Top 600mm Dep
21	Counter Top - L Shaped	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	L Shaped Counter Top 60
22	Defibrillator	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-40 70 11 14 11 17: Patient Care Equipme	Defibrillator
23	DirectDigitalControl-DDC-Panel	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	21-81 61 62 21: HVAC Measurement and Cor	Direct Digital Control (DDC
24	Door Type A	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Solid Core Wood - 0
25	Door Type B	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Solid Core Wood w/
26	Door Type C	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Lead Lined Flush Solid Cor
27	Door Type D	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Folding Accordion Partitio
28	Door Type E	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Steel - 0915 x 2134
29	Door Type F	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Steel w/Glass - 0915

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DFM Database Directory: C:\Users\Bobbyj\Desktop\Cobiel\Blank DFM Project\DFM Project\Data

IMPORT from Excel: 00:00:54

Version: 1.0.1.66

Component Spare Job Attribute

Drag a column header here to group by that column

Name	Description
AC Unit Type 1 Product Data	n/a
AC Units and ACCUs-Manufacturers Equip	n/a
AC Units and ACCUs-Operations and Maint	n/a
AC Units and ACCUs-Operator Servicing R	n/a
AC Units and ACCUs-Preventative Maint	n/a
AC Units and ACCUs-Preventive Maintena	n/a



InControl DFM - Registered to Tester

File Print Record Tools Help

Project: Sample Project

Digital Facilities Manual Rev. 45 (Unpublished)

Setup Menu Import XLS Solibri XLS Edit Grid

Drag a column header here to group by that column

Has Link	Asset	Tag	Object Tag	Object Title	Sub Folder	Link
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Demo	600kVA UPS Batteries	U.P.S. System (56)\	ups12-27001.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	600kVA UPS By-pass switch	U.P.S. System (56)\	NXA START-UP SHEET .pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	600kVA UPS	U.P.S. System (56)\	Hip E 600kVA SMS.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000339	AHU Bag Filter	Ventilation & Air Conditioning (39)\AHU\	F6-F8 Bag Filter Data Sheet.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	AHU Cooling CHW Circuit Pump	Chilled Water Services (94)\	TP-D.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000341	AHU Heat Exchanger	Ventilation & Air Conditioning (39)\AHU\	Heat Exchanger Data PDF
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	AHU Heating Pumpset	LPHW System (93)\	TPED O&M.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000340	AHU Panel Filter	Ventilation & Air Conditioning (39)\AHU\	G4 Panel Filter Data Sheet.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000342	AHU Variable Speed Drive	Ventilation & Air Conditioning (39)\AHU\	SK (VSD) Manual.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	ASVA Control Panel N/S No 1	Smoke Ventilation (104)\	ASVS Control Panel - Shaft No 1.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	ASVA Control Panel N/S No 2	Smoke Ventilation (104)\	ASVS Control Panel - Shaft No 2.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000612	Access Panels	Plastering and Drylining (25)\Dry Lining\	Access Panels.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000519	Acoustic Barrier	Insulation (23)\	Lamatherm Acoustic Barrier Details.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DFM-E-000176	Adjustable Restraint	Stone Cladding (28)\	_0520134756_001.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Schedule	Air Conditioning Indoor Unit - Server Rooms	Ventilation & Air Conditioning (39)\Splits\	T605.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Schedule	Air Conditioning Outdoor Unit	Ventilation & Air Conditioning (39)\	Sanyo_EC01_Mini_0706.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Schedule	Air Conditioning Outdoor Unit - Server Rooms	Ventilation & Air Conditioning (39)\	Sanyo_EC01_Mini_0706.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Schedule	Air Conditioning Unit - Indoor Unit	Ventilation & Air Conditioning (39)\Epack\	DTA60 & ACS502.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Schedule	Air Conditioning Unit - Outdoor Unit	Ventilation & Air Conditioning (39)\Epack\	EDPAC ACS-DCS Condensers & Dryco
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Air Differential Pressure Transmitter	Controls System (43)\Instrumentation Data\	Air Differential Pressure Transmitter Mo
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	Air Dirt Separator	Chilled Water Services (94)\	Flamcovent_Instructions_new - strand
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	01ZCL4AHU0001	Air Handling Unit No 1	Ventilation & Air Conditioning (39)\	AHU 1 Drawing.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	Air Handling Unit No 2	Ventilation & Air Conditioning (39)\	AHU 2 Drawing.pdf
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Demo	Air Handling Unit No 3	Ventilation & Air Conditioning (39)\	AHU 3 Drawing.pdf

Records: 589

History Docs O&M Procs Dirgs Certs Spares Faults Sub Items

Type	Doc No	Title	File Name
Technical Data	DFM-D-000171	AHU Performance Specifications	AHU Performance Specification_Data.pdf
Technical Data	DFM-D-000172	AHU Attenuator Insertion Loss Data	Attenuator Insertion Loss_Data.pdf
Technical Data	DFM-D-000173	AHU Coil Data	Coil Data.PDF
Technical Data	DFM-D-000174	AHU Coil Flow Parameters	Coil Flow Parameters.pdf

Document

First Back Delete New Edit Save Refresh Cancel Next Last Find Search Copy

DFM Version 4.5.22.228 Data Location: UNC - w:\DFM SYSTEMS\Program Files\Files\Projects\DFM\Data

Assets

Air Handling Unit No 1

General Location View PDF View Photo Warranty

Tag

Item: Air Handling Unit No 1

System: Ventilation & Air Conditioning

Object Tag: 01ZCL4AHU0001 Category: COMMON Qty: 1

Schedule: Location: Roof

Source: G4 Panel Filter Data Sheet.pdf

Supplier: Danann

Manufacturer: Danann

Model: DA 60.20

Serial No: 01ZCL4AHU0001

Sub Folder: Ventilation & Air Conditioning (39)\

Data Sheet: AHU 1 Drawing.pdf

Serving: Zone C Level 4

Warranty: 24 Months

Maint: 12 Months

Description: AHU23

H&S File

- Oper/Maint
- Object Register
- Reference
- Suppliers
- Schedules
- Systems
- Emergency Numbers

Project documents

- Project
- Design Specs
- Documents
- Drawings
- O&M Data
- Tests & Cert
- Assets
- Faults
- Spares
- H&S

Tools

- Contacts
- Menu
- Editor
- Options

Extra

- Import SPM Assets
- Import from IFC
- Open DFM 5
- Import Documents
- Import & Build IFC File
- COBie Import/Export
- Compare GUID's

COBie Export



COBIE Importer

DFM Importer

COBIE Spreadsheet: 2013-03-28-Clinic-Handover-v13.xlsx (EF16)

Import Export RAW X Clear COBIE Data

COBIE DFM Tools

Instruction Contacts Facility Floor Space Zone Type (15) Component (5) System (2) Assembly Connection Spare (4) Resource (2) Job Impact Document (55) Attribute

Drag a column header here to group by this column

ID	Name	Created By	Created On	Category	Description
1	AC Unit Type 1	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21 27: Unitary Air Conditioning E	Horiz. D.X. Fan Coil
2	AC Unit Type 2	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21 27: Unitary Air Conditioning E	Horiz. D.X. Fan Coil
3	AHU	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 35 14 17: Modular Indoor Air Handling	63300000 J
4	Air Compressor - Dental	mariangelica.carrasquillo@usace.army.mil	28/01/2013 16:24:00	23-65 55 11 11: Gas Compressors/Vacuum Pl	Duplex Packaged Assembly
5	Air Cooled Chiller	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21 21: Rotary-Screw Water C	633-703 kW
6	Air Cooled Condensing Unit- Sm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21: Cooling and Freeze Compon	3500 Watt Capacity
7	Air Cooled Condensing Unit- Sm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 24 21: Cooling and Freeze Compon	2500 Watt Capacity
8	Air Separator	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 50 17: Supply Air Treatment	Centrifugal Air Separator
9	Backflow Preventer	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 21: Non-Return Valves for Liquid	20 mm
10	Ball Valve 100 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	100 mm
11	Ball Valve 150 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	150 mm
12	Ball Valve 50 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	50 mm
13	Ball Valve 65 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	65 mm
14	Ball Valve 80 mm	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-65 55 14 17: Adjusting/Controlling Valves	80 mm
15	BLOOD GAS ANALYZER	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-40 70 11 14 11: Medical Equipment	BLOOD GAS ANALYZER
16	Bolier	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-75 10 11 14: Hot Water Heat Generators	Induced Heat Draft, Natur
17	Cabinet Type A	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Base Cabinet-Double Door
18	Cabinet Type B	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Upper Cabinet-Double Doc
19	Cabinet Type C	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Upper Cabinet-Single Door
20	Counter Top	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	Counter Top 600mm Dep
21	Counter Top - L Shaped	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-40 35 17 47 11: Kitchen Casework	L Shaped Counter Top 60
22	Defibrillator	danielle.r.love@usace.army.mil	14/09/2011 16:57:00	23-40 70 11 14 11 17: Patient Care Equipme	Defibrillator
23	DirectDigitalControl-DDC-Panel	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	21-81 61 62 21: HVAC Measurement and Con	Direct Digital Control (DDC
24	Door Type A	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Solid Core Wood - 0
25	Door Type B	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Solid Core Wood w/
26	Door Type C	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Lead Lined Flush Solid Cor
27	Door Type D	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Folding Accordion Partitio
28	Door Type E	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Steel - 0915 x 2134
29	Door Type F	mariangelica.carrasquillo@usace.army.mil	14/09/2011 16:57:00	23-30 10: Doors	Flush Steel w/Glass - 0915

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DFM Database Directory: C:\Users\BobbyJ\Desktop\Cobie\Blank DFM Project\DFM Project\Data

IMPORT from Excel: 00:00:54

Version: 1.0.1.66

Name: AC Unit Type 1
Category: 23-75 10 24 21 27: Unitary Air Conditioning Equip
Description: Horiz. D.X. Fan Coil
Asset Type: Fixed
Manufacturer: sales@mitsubshielectric.com
Model Number: PC24EK1
Ext. Identifier: n/a

Documents Component Spare Job Attribute

Drag a column header here to group by that column

Name	Description
AC Unit Type 1 Product Data	n/a
AC Units and ACCUs-Manufacturers Equip	n/a
AC Units and ACCUs-Operations and Maint	n/a
AC Units and ACCUs-Operator Servicing R	n/a
AC Units and ACCUs-Preventative Maint	n/a
AC Units and ACCUs-Preventive Maintena	n/a



Excel Export (CSV)

Excel / CSV export from Digital Safety File



A	B	C	D	E	B	C	D			
1	SystemID	System	ParentID	No	Modified	Created	AssetTag	Item	SystemRef	Model
2	1	DESIGN	383	1.01	07/07/2017 05:20	01/07/2017 05:20	FM-E-000319	Facade	223	Galimbe
3	3	STRUCTURE	383	1.04	21/07/2017 07:42	01/07/2017 07:42	WML-01-B1-GEN	Generator set		
4	4	INTERNAL FABRIC & FINISHES	383	1.05	07/07/2017 05:20	01/07/2017 05:20	WML-01-00-FAP	Fire Alarm Repeater Panel		
5	5	ELECTRICAL SERVICES	383	1.07	21/07/2017 07:42	01/07/2017 07:42	WML-01-00-FAP	Fire Alarm Panel		
6	6	MECHANICAL SERVICES	383	1.09	07/07/2017 05:21	01/07/2017 05:21	WML-01-00-FAP	Fire Alarm Panel		
7	8	Architect	1	1.01.01	03/11/2017 09:25	01/03/11/2017 09:25	WML-01-00-TMSB	Distribution Board - TMSB		
8	9	Civil & Structural Consultant	1	1.01.04	15/11/2017 09:08	01/15/11/2017 09:08	WML-01-B1-LDB-B1-B	Distribution Board - LDB-B1-B		
9	10	M&E Consultant	1	1.01.03	03/11/2017 08:31	01/03/11/2017 08:31	WML-01-00-TDB-00-A	Distribution Board - TDB-00-A		
10	11	Fire Consultant	1	1.01.05	03/11/2017 08:32	01/03/11/2017 08:32	WML-01-02-TDB-02-C	Distribution Board - TDB-02-C		
11	51	PSDP	1	1.01.02	03/11/2017 08:30	25/03/11/2017 08:30	WML-01-00-LMSB	Distribution Board - LMSB		
12	52	SPRINKLER SYSTEM	0	9	03/05/2014 04:33	25/03/05/2014 04:33	WML-01-B1-LDB-B1-A	Distribution Board - LDB-B1-A		
13	127	LIFTS	383	1.06	07/07/2017 05:21	06/07/07/2017 05:21	WML-01-02-TDB-02-B	Distribution Board - TDB-02-B		
14	128	SITE & EXTERNAL	383	1.02	07/07/2017 05:20	06/07/07/2017 05:20	WML-01-00-MVS	M.V. Switch Gear		
15	132	Main Contractor (PSCS)	1	1.01.06	03/11/2017 08:33	03/03/11/2017 08:33	WML-01-ZZ-FASD	Point Smoke Detector - Optical Smoke		
16	145	SECURITY SERVICES	383	1.08	01/11/2017 10:35	03/01/11/2017 10:35	WML-01-ZZ-FADD	Duct Smoke Detectors - Duct Fitting		
17	151	MEDICAL	0	11	03/05/2014 04:33	03/03/05/2014 04:33	WML-01-ZZ-FAMCP	Manual Call Points - Standard		
18	196	Landscape Architect	1	1.01.07	03/11/2017 09:06	27/03/11/2017 09:06	WML-01-05-LDB-05-A	Distribution Board - TDB-05-A		
19	221	Chilled Water Installation	6	1.09.03	07/11/2017 09:59	03/07/11/2017 09:59	WML-01-02-LDB-02-A	Distribution Board - LDB-02-A		
20	222	Generator	5	1.07.08	06/11/2017 11:45	03/06/11/2017 11:45	WML-01-00-LDB-00-A	Distribution Board - LDB-00-A		
21	223	Curtain Walling & Glazing	409	1.03.01.01	03/11/2017 11:02	01/03/11/2017 11:02	WML-01-00-MVT	M.V. Transformer		
22	232	Landscapeing	128	1.02.02	09/11/2017 10:15	03/09/11/2017 10:15	WML-01-00-SPIR	Security PIR - Dual Technology		
23	234	External Metalworks	128	1.02.04	09/11/2017 08:55	03/09/11/2017 08:55	WML-01-00-PB	Panic Button		
24	236	Structural Steel	411	1.04.06.01	08/11/2017 11:49	03/08/11/2017 11:49	WML-01-B1-LS-DB-B	Distribution Board - LS-DB-B		
25	238	Roof	287	1.03.02	09/11/2017 08:04	03/09/11/2017 08:04	WML-01-01-TDB-01-A	Distribution Board - TDB-01-A		
26	239	Fall Arrest System & Walkways	238	1.03.02.02	08/11/2017 04:19	03/08/11/2017 04:19	WML-01-03-TDB-03-A	Distribution Board - TDB-03-A		
27	243	Ceilings	4	1.05.02	06/11/2017 08:49	03/06/11/2017 08:49	WML-01-04-TDB-04-B	Distribution Board - TDB-04-B		
28	244	Internal Doors & Ironmongery	4	1.05.05	08/11/2017 09:55	03/08/11/2017 09:55	WML-01-05-TDB-05-B	Distribution Board - TDB-05-B		
29	245	Fire Stopping	412	1.05.03.02	06/11/2017 08:53	03/06/11/2017 08:53	WML-01-03-TDB-03-C	Distribution Board - TDB-03-C		
30	246	Floor & Wall Finishes	4	1.05.04	09/11/2017 09:01	03/09/11/2017 09:01	FM-D-000228	Inlet Cabinet for Recess Mounting		
31	247	Painting & Decorating	246	1.05.04.04	08/11/2017 09:55	03/08/11/2017 09:55	FM-D-000229	UK StraightThrough Landing Valve		
32	248	Partitions (Plasterboard)	413	1.05.08.03	06/11/2017 10:19	03/06/11/2017 10:19	WML 01 -01 WT01	Glass reinforced plastics tanks		
33	249	Toilet Cubicles, Vanity Units, Shower & Sanitary Ware	4	1.05.10	09/11/2017 08:13	03/09/11/2017 08:13	WML 01 -01 WT02	Glass reinforced plastics tanks		
34	251	Partitions (Glazed)	413	1.05.08.02	06/11/2017 10:15	03/06/11/2017 10:15	WML 01 -01 R01	Radiators		
35	252	Turnstiles & Speed Lanes	145	1.08.05	07/11/2017 09:08	03/07/11/2017 09:08	DFM-D-000246	Fire Extinguisher		
36	255	Piling	3	1.04.05	03/11/2017 12:27	03/03/11/2017 12:27				
37	256	LV Installation	5	1.07.11	09/11/2017 09:20	03/09/11/2017 09:20				
38	257	MV Installation	5	1.07.12	09/11/2017 09:21	03/09/11/2017 09:21				

A	B	C	D
1	Key	Ref	Tag
2	4E1BC353E4FD29B7C8A87EF33ECC0	17	1WML-01-B1-GEN
3	C1A27D95CAFE4C387C814FAEB2BF112	444	1WML 01-06 AHU01
4	F8AC903142E4C06875AE2B72FE42999	445	1WML 01-06 AHU02
5	3721581B57714EDD9FA9DB62C438F66	446	1WML 01-06 AHU03
6	68D6A7C17929438C98ADA7DD039379CA	447	1WML 01-06 AHU04
7	78CE8FAD424074E488C0454F498BA4FC	448	1WML 01-01 AHU05
8	016A72CD4FE249B0BE65635CDB68338A	650	1WML 01-01 CH01
9	016A72CD4FE249B0BE65635CDB68338A	652	1WML 01-01 CH02
10	016A72CD4FE249B0BE65635CDB68338A	651	1WML 01-01 CH03
11	00400E9A6CBD104ACE189E86858D788	453	1WML 01-01 B01
12	00400E9A6CBD104ACE189E86858D788	454	1WML 01-01 B02
13	97AEDA78C15743ECB3AABF41A97696EC	458	1WML 01 06 EF01
14	97AEDA78C15743ECB3AABF41A97696EC	459	1WML 01 06 EF02
15	97AEDA78C15743ECB3AABF41A97696EC	460	1WML 01 06 EF03
16	97AEDA78C15743ECB3AABF41A97696EC	461	1WML 01 06 EF04
17	97AEDA78C15743ECB3AABF41A97696EC	462	1WML-01-01-CDF01
18	97AEDA78C15743ECB3AABF41A97696EC	463	1WML-01-01-CDF02
19	97AEDA78C15743ECB3AABF41A97696EC	464	1WML-01-01-CDF03
20	97AEDA78C15743ECB3AABF41A97696EC	465	1WML-01-01-CDF04
21	97AEDA78C15743ECB3AABF41A97696EC	468	1WML-01-00-EF05
22	97AEDA78C15743ECB3AABF41A97696EC	469	1WML-01-00-EF06
23	97AEDA78C15743ECB3AABF41A97696EC	470	1WML 01-01 EF07
24	97AEDA78C15743ECB3AABF41A97696EC	471	1WML 01-01 EF08
25	97AEDA78C15743ECB3AABF41A97696EC	472	1WML 01 00 EF09
26	A0C8F81FD0404CBA9347F2B49662F650	473	1WML-01-00-FCU01
27	A0C8F81FD0404CBA9347F2B49662F650	474	1WML 01 00 FCU02
28	A0C8F81FD0404CBA9347F2B49662F650	475	1WML 01 01 FCU03
29	A0C8F81FD0404CBA9347F2B49662F650	476	1WML 01-02 FCU04
30	A0C8F81FD0404CBA9347F2B49662F650	477	1WML 01 03 FCU05
31	A0C8F81FD0404CBA9347F2B49662F650	478	1WML 01 04 FCU06
32	D15A3204543F42369C32EFC077A16D6	480	1WML 01-01 HRU01
33	A64F5B3971824EFF950D6B1CA56F8B43	179	1WML 01-01-AC 01
34	A64F5B3971824EFF950D6B1CA56F8B43	180	1WML - 01 -01 - AC 02
35	A64F5B3971824EFF950D6B1CA56F8B43	518	1WML 01-01 AC01
36	A64F5B3971824EFF950D6B1CA56F8B43	519	1WML 01-01 AC02
37	A64F5B3971824EFF950D6B1CA56F8B43	520	1WML 01-01-OU01
38	A64F5B3971824EFF950D6B1CA56F8B43	521	1WML 01-01-OU02

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Solibri

Solibri COBie Export



Solibri Model Checker - COBie_Duplex_A_AC16_ver2

File Model Checking Presentation Information Takeoff COBie

Model Tree

- 3D
- Level 1
- Beam
 - Beam.0.1
 - Beam.0.2
 - Beam.0.3
 - Beam.0.4
- Covering
- Door
- Opening
- Railing
- Slab
- Space
- Wall

Info Window: L8

Property Value

Area: 1.45 m2
Height: 3.20 m

COBie

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
131	Fixed Window	n/a	n/a	Wood Fixed Window	W002	Fixed Window	n/a	Window	W002001	Available	n/a	2012	n/a	Available	n/a	n/a	18.63
134	Floor Deck	n/a	n/a	Floor Deck	F100	Floor Deck	n/a	Slab	SL005m6d	Available	n/a	2012	n/a	Available	n/a	n/a	59.23
135	Floor Deck	n/a	n/a	Floor Deck	F100	Floor Deck	n/a	Slab	SL005m6d	Available	n/a	2012	n/a	Available	n/a	n/a	59.33
136	Floor Deck	n/a	n/a	Structural Floor Deck	F100	Floor Deck	n/a	Slab	SL001m6C	Available	n/a	2012	n/a	Available	n/a	n/a	25.43
137	Floor Deck	n/a	n/a	Structural Floor Deck	F100	Floor Deck	n/a	Slab	SL001m6C	Available	n/a	2012	n/a	Available	n/a	n/a	25.43
138	Floor Deck	n/a	n/a	Structural Floor Deck	F100	Floor Deck	n/a	Slab	SL001m6C	Available	n/a	2012	n/a	Available	n/a	n/a	84.78
139	Floor Deck	n/a	n/a	Structural Floor Deck	F100	Floor Deck	n/a	Slab	SL001m6C	Available	n/a	2012	n/a	Available	n/a	n/a	84.91
140	Roof	n/a	n/a	Structural Roof Deck	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	132.54
141	Roof	n/a	n/a	Roof	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	2.53
142	Roof	n/a	n/a	Roof	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	2.83
143	Roof	n/a	n/a	Roof	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	2.41
144	Roof	n/a	n/a	Roof	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	2.41
145	Roof	n/a	n/a	Roof	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	8.75
146	Roof	n/a	n/a	Roof	R100	Roof	n/a	Roof	RO00200	Available	n/a	2012	n/a	Available	n/a	n/a	58.75
147	Softs	n/a	n/a	1800mm	S100	Softs	n/a	Furniture	SO001m6A	Available	n/a	2012	n/a	Available	n/a	n/a	n/a
148	Softs	n/a	n/a	1800mm	S100	Softs	n/a	Furniture	SO001m6A	Available	n/a	2012	n/a	Available	n/a	n/a	n/a
149	Softs	n/a	n/a	1800mm	S100	Softs	n/a	Furniture	SO001m6A	Available	n/a	2012	n/a	Available	n/a	n/a	n/a

Welcome to Solibri Model Checker

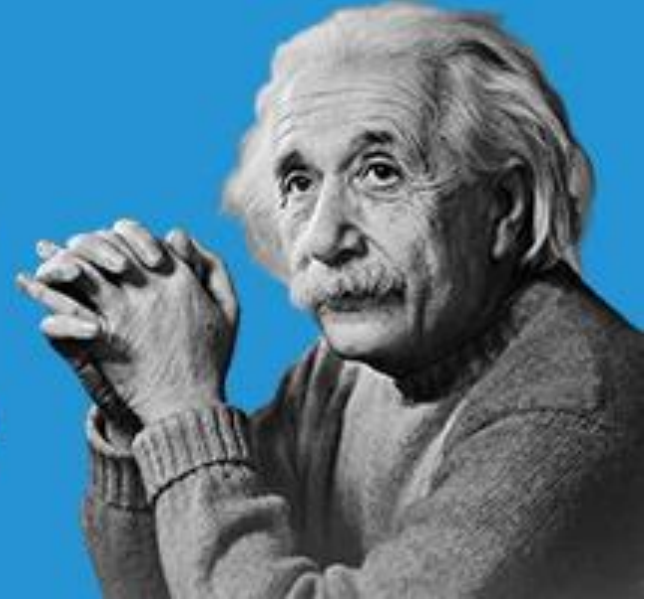
Rate: BIM Coordinator Selected: 17





“If you **always** do what you
always did, you will **always** get
what you **always** got”

-ALBERT EINSTEIN



Structured Data?





An EIR should define **WHAT** Information is wanted and **WHEN** that information needs to be delivered.

- Operating and Maintenance Information and procedures
- Product Data Sheets
- Commissioning Results
- As Built Drawings
- Warranties

Performance Data

U Value

Fire Rating

Cita
BIM GATHERING



Thank you
