ASSET DATA DICTIONARY DEFINITION DOCUMENT (AD4) L76119 - SOUND ATTENUATION EQUIPMENT

Document Number: **CRL1-XRL-Z3-ADDSD-CR001-50341**

Document Revision: **5.0**

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Document History:

Revision:	Date:	Prepared by:	Checked by:	Authorised by:	Reason for Issue:
1.0	05-02-13	Loukia Sivena	[redacted]	[redacted]	First issue
2.0	03-Jun-2014	[redacted]	[redacted]	[redacted]	Corrected Attribute Names Asset Tag Identification Section Updated
3.0	19-Sep-2014	[redacted]	[redacted]	[redacted]	Approvals Added Consultations Removed
4.0	27-Aug-2015	[redacted]	[redacted]	[redacted]	Labelling Section Updated
5.0	27-Apr-2016	[redacted]	[redacted]	[redacted]	Description updated Images removed

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Contents

1 Introduction 3
1.1 Asset Details 3
1.2 Description 3
1.3 Related Functions 3
2 Asset Tag Identification Rules 4
2.1 Example Images 4
3 Attributes 5
3.1 Generic Attributes 5
3.2 Class Specific Attributes 5
4 Performance Data 9
5 Labelling 9
6 Other Information 9
7 Reference Material 9
8 Crossrail Technical Approvals 10

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1 Introduction

1.1 Asset Details

Class Code:	L76119
Class Name:	Sound Attenuation Equipment
Class Lineage:	Construction Products>Services>Information-communication services products>General information systems >Audio information>Sound Attenuation Equipment

1.2 Description

Sound generated by various systems (ventilation, chilled water systems, etc.) is attenuated by sound attenuation equipment (i.e. sound attenuators, acoustic diffusers, acoustic cladding, and acoustic louvres).

The sound attenuation equipment shall be designed in conjunction with the particular noise generating equipment supplier(s) to provide the required dynamic insertion losses required to attenuate the generated equipment noise levels to meet Crossrail noise level requirements.

Note that Duct Silencers are covered by L75618.

1.3 Related Functions

All information on the configuration of asset classes (L-Class) to functions is contained within the latest revision of the Asset Data Dictionary Master Configuration document (eB ref: CRL1-XRL-Z3-ADDSD-CR001-50186)

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2 Asset Tag Identification Rules

Assets will be identified as required by the Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031) in the following format:

<LCS Code>-<Function Code>-<Incremental number to ensure uniqueness>

e.g. CR076-BAF-12345

Information and guidance on the standard naming convention for all asset classes is contained within the latest revision of the Asset Naming Convention Document (eB ref: CRL1-XR1-Z3-ADDSD-CR001-50413).

2.1 Example Images

Figure 1 Attenuator

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3 Attributes

3.1 Generic Attributes

All Classes of assets will have a set of Generic Attributes for which data is collected without exception. Full details relating to these assets can be found at:

AD4 – Generic Attributes CRL1-XRL-Z3-ADDSD-CR001-50069

3.2 Class Specific Attributes

Below is a table of the further specific attributes which are associated with this asset class.

Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
Sound Attenuator Type		PD		Atmosphere Side Attenuator System Side Attenuator Acoustic Cladding Acoustic Diffuser Acoustic Silencer	Function type of attenuator
Sound Attenuator Structural Material		PD		Steel Other	Structural Material type of attenuator

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Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
Sound Attenuator Acoustic Material		PD		Rockwool Felt Plastic Foam	Acoustic Material type of attenuator
Height (Metres)	Metres	NU	2		Vertical measure of entry face of the unit.
Length (Metres)	Metres	NU	2		Horizontal measure of entry face of the unit
Depth (Metres)	Metres	NU	2		Horizontal Depth of attenuator
Attenuator Wall Thickness (Metres)	Metres	NU	2		Thickness of material of the walls of the attenuator unit
Weight (Kilograms)	Kilograms	NU	2		Total weight of attenuator
Face Velocity (Metres per Second)	Metres per Second	NU	2		Maximum velocity at the entry face of attenuator
Airway Velocity (Metres per Second)	Metres per Second	NU	2		Max velocity of air in the airway
Supply Mode Pressure Loss (Pa)	Pa	NU	0		Lost pressure of air at entrance of attenuator

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Attribute Name	Base Unit or Formula	Value Type (See Below)	Decimal Places (nu Only)	Defined Values List (pd only)	Description
Exhaust Mode Pressure Loss (Pa)	Pa	NU	0		Lost pressure of air at exit of attenuator
Insertion Loss 63Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 125Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 250Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 500Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 1k Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 2k Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 4k Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Insertion Loss 8k Hz (dB)	dB	NU	2		Loss of sound according to attenuator frequency
Self Noise 63Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency
Self Noise 125Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency

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Attribute Name	Base Unit or Formula	Value Type (See Below)	Decimal Places (nu Only)	Defined Values List (pd only)	Description
Self Noise 250Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency
Self Noise 500Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency
Self Noise 1k Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency
Self Noise 2k Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency
Self Noise 4k Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency
Self Noise 8k Hz (dB)	dB	NU	2		Noise from attenuator according to attenuator frequency

pd = Predefined List (Listed Values Only)
nu = Numeric (dp and number format can be stipulated)
ch = Free text (Max 255 Characters)
da = Date (dd-mm-yyyy)
me = Memo (Free text 1GB Limit)

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4 Performance Data

This section is to be used to specify the performance data to be gathered from this Class of asset when in operation. To be populated once performance measures have been agreed with Infrastructure Managers.

5 Labelling

Information and guidance on the standard labelling convention for all asset classes is contained within the latest revision of the Asset Naming and Labelling Convention Document (eB ref: CRL1-XR1-Z3-ADDSD-CR001-50413).

6 Other Information

Not Applicable

7 Reference Material

- Asset Data Dictionary Master Configuration document - CRL1-XRL-Z3-ADDSD-CR001-50186
- Asset Identification Standard - CRL1-XRL-O6-STD-CR001-00031
- AD4 – Generic Attributes - CRL1-XRL-Z3-ADDSD-CR001-50069
- Asset Naming Convention Document - CRL1-XR1-Z3-ADDSD-CR001-50413

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8 Crossrail Technical Approvals

Name	Role	Date
[redacted]	Systemwide Mechanical & Electrical Lead Engineer	19-Sep-2014

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