ASSET DATA DICTIONARY DEFINITION DOCUMENT (AD4)
L75347 - TUNNEL VENTILATION FANS

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8.0	25-Apr-2017	[redacted]	[redacted]	[redacted]	LRS Codes Updated

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Contents

1 Introduction 4
1.1 Asset Details 4
1.2 Description 4
1.3 Related Functions 4
2 Asset Tag Identification Rules 4
2.1 Example Images 5
3 Attributes 6
3.1 Generic Attributes 6
3.2 Class Specific Attributes 6
4 Performance Data 10
5 Labelling 10
6 Other Information 10
7 Reference Material 10
8 Crossrail Technical Approvals 11

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1 Introduction

1.1 Asset Details

Class Code: L75347

Class Name: Tunnel Ventilation Fans

Class Lineage: Construction Products>Services>Climate control plant and equipment (HVAC)>Impelling equipment >Mechanical ventilation, extraction>Tunnel Ventilation Fans

1.2 Description

Tunnel Ventilation Fans deliver a volume flow rate of air. The resultant air movement within the running tunnels provides airflow within the annulus between the tunnel lining and the trains. The main purpose of the tunnel ventilation fans is to provide smoke control during an emergency fire event. A secondary function of the tunnel ventilation fans is to provide cooling by maintaining an appropriate quantity of fresh air for passengers and removing heat from the trains' air-conditioning units.

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)

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).

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2.1 Example Images

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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**
Fan Diameter (Millimetres)	Millimetres	NU	0		Diameter of the circular leafed fan
Fan Fire Rating (Degrees Celsius)	Degrees Celsius	NU	2		Fire rating of fan
Fan Flow Direction		PD		Reversible Unidirectional	
Fan Inlet Noise		CH			Inlet noise at a given frequency
Fan Motor Starter Type		PD		VSD Star Delta Soft Starter DOL	Motor Starter Type
Fan Mounting		PD		Vertical Horizontal	The orientation of the mounted unit.

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Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
Fan Outlet Noise		CH			Outlet noise at a given frequency
Flow Rate (Metres Cubed per Second)	Metres Cubed per Second	NU	2		Fan duty: Design air volume flow rate (m3/s) at a specified total system pressure (Pa)
Frequency (Hertz)	Hertz	NU	0		Nominal input frequency
Full Load Current (Amps)	Amps	NU	0		Current at full load operation of fan
Input Voltage (Volts)	Volts	NU	0		Nominal input voltage
Length (Millimetres)	Millimetres	NU	0		Length of overall unit
Maximum External Temperature (Degrees Celsius)	Degrees Celsius	NU	2		Maximum external temperature
Maximum Power (kW)	kW	NU	2		Maximum power of the motor
Maximum Total Harmonic Distortion		CH			Total Harmonic Distortion, i.e. G5/4-1
Minimum Power (kW)	kW	NU	2		Minimum power of the motor
Output Power (kW)	kW	NU	2		Power duty of fan
Overall Diameter (Millimetres)	Millimetres	NU	0		Diameter of overall unit
Rotational Speed (RPM)	RPM	NU	0		Fan impeller speed

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Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
Starting current (Amps)	Amps	NU	0		Current needed to start the fan, direct on line
Tunnel Ventilation Fan Type		PD		Axial Impellor (Jet)	Fan type
Weight (Kilograms)	Kilograms	NU	2		Total weight of the fan
Meterage (Metres)	Metres	NU	0		Meterage (Chainage) location of asset. To be populated only when the asset is located on track.

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Attribute Name	**Base Unit or Formula**	**Value Type** (See Below)	**Decimal Places** (nu Only)	**Defined Values List** (pd only)	**Description**
LRS Code		PD		C.EB C.EB.CRW5 C.EB.CR1 C.EB.CR7 C.EB.TBC C.WB C.WB.CRW9 C.WB.CRW6 C.WB.CR2 C.WB.CR5 C.WB.TBA C.WB.TBB CNE.EB CNE.WB CSE.EB CSE.EB.CR11 CSE.WB CSE.EB.CR13 CSE.WB.CR15 Non Track	The Crossrail Linear Referencing Standard code (CRL1-XRL-O6-STD-CR001-00026) where the asset is located. When the asset is not located on track then non track should be selected. The LRS codes are as follows: C.EB - Central Section Eastbound C.EB.CRW5 - Crossover between W5 and W4 Points C.EB.CR1 - Crossover between C1 and C4 Points C.EB.CR7 - Crossover between C7 and C8 Points C.EB.TBC - Turnback C C.WB - Central Section Westbound C.WB.CRW9 - Crossover between W9 and W8 Points C.WB.CRW6 - Crossover between W6 and W3 Points C.WB.CR2 - Crossover between C2 and C3 Points C.WB.CR5 - Crossover between C5 and C6 Points C.WB.TBA - Turnback A C.WB.TBB - Turnback B CNE.EB - Central Section North East Spur Eastbound CNE.WB - Central Section North East Spur Westbound CSE.EB - Central Section South East Spur Eastbound CSE.EB.CR11 - Crossover between C11 and C12 Points CSE.WB - Central Section South East Spur Westbound CSE.EB.CR13 - Crossover between C13 and C14 Points CSE.WB.CR15 - Crossover between C15 and C16 Points Non Track - Non Track Assets

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 the 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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