



# EAL Level 3 Diploma in Rail Engineering Technician Knowledge

## Qualification specification

### Overview

This Knowledge qualification has been developed by the Rail Engineering Employers Trailblazer group and as such is intended to provide the means to record the knowledge aspect of the L3 Rail Engineering Technician Apprenticeship.

In order to articulate the specific level of knowledge and behaviours required to be achieved and assessed to demonstrate a full occupational knowledge in the Apprenticeship. The employers in the Rail Engineering Apprenticeship Trailblazer group have developed a set of standards that this qualification represents.

Qualification code:	603/0375/X
Level:	3
GLH	360 hours
TQT:	600 hours
Minimum learning age:	16



## Purpose of the qualification

### What is this qualification?

This Knowledge qualification has been developed by the Rail Engineering Employers Trailblazer group and as such is intended to provide the means to record the knowledge aspect of the Level 3 Rail Engineering Technician Apprenticeship. The information provided relating to the Rail Engineering Technician Apprenticeship applies to England only and apprenticeship requirements in other regions which may be different.

In order to articulate the specific level of, knowledge and behaviours required to be achieved and assessed to demonstrate a full occupational knowledge in the Apprenticeship. The employers in the Rail Engineering Apprenticeship Trailblazer group have developed a set of standards that this qualification represents.

### What does this qualification cover?

The content of this qualification covers the knowledge requirements of the Level 3 Rail Engineering Technician Standard required by an Apprentice working or wishing to progress in Rail Engineering. This qualification is assessed by the apprentice achieving a series of knowledge assessments. This qualification has six pathways track, OLC, electrification, signalling, telecoms and traction and rolling stock and the learner can choose the pathway that suits their workplace and employer needs.

This qualification is a Level 3 Diploma and has a Total Qualification Time of 600 hours and 360 of Guided Learning Hours.

### Who is this qualification for?

This qualification is aimed at apprentices in the rail engineering industry who need to demonstrate their knowledge to enable progression within their workplace and careers. They could be learners who may have limited prior experience in rail engineering but have the ability to achieve a level 3 qualification, for example:

- Apprentices that are recent school Leavers and are starting a career in the rail engineering, this qualification provides the knowledge aspect of the Level 3 Rail Engineering Apprenticeships Standard and can be attempted once the employer deems it appropriate to do so.
- Supporting the up skilling of career changers who have may existing technical engineering knowledge and need this to be recognised in a qualification.

Centres are advised to consider, during delivery and assessment of the qualifications, the support, guidance and opportunities they will need to give learners to enable them to meet the demands of the units.

## Who supports the qualification?

This qualification:

- Is accredited by Ofqual at level three
- Is approved by the Rail Engineering Employer Group as meeting the knowledge requirement of the Level 3 Rail Engineering Technician Apprentice Standard.

## What could this qualification lead to?

### Typical job roles include:

Rail engineering technician in one of the following areas: track, OLC, electrification, signalling, telecoms and traction and rolling stock.

The qualification also supports progression onto a higher apprenticeship in engineering.

## Entry requirements

There are no formal entry requirements for this qualification; although centres should ensure that the learners have the potential to achieve the units within this qualification. Learners must have the minimum levels of literacy and numeracy to comply with the health and safety aspects of the scheme, the completion of the learning outcomes and the external assessment.

## How is the qualification achieved?

This qualification is gained when all mandated units have been achieved. The centre will then be able to apply for the learner's final Certificate. The learner will also receive a Certificate of Unit Credit, listing all the units they have achieved.

However if they don't manage to complete the full qualification learners can still claim a Certificate of Unit Credit for the units achieved therefore, they still have proof of their ability and could complete the qualification at a later date.

Units can also be taken individually (stand alone). The qualification manual must be used in conjunction with the delivery and assessment of any individual units to ensure that assessment requirements and methodologies are consistently applied.

## What will be assessed?

This qualification is assessed by the completion of knowledge assessments that are mapped to the requirements of the qualification.

## Grading criteria

This Qualification is graded Pass Merit, Distinction or Refer.

## How will it be assessed?

The qualification is assessed by an assessor who validates the portfolio of completed knowledge assessments. These assessments are marked and feedback given to the apprentice

## Structure

This qualification will be obtained by the learner once they have completed **all the mandated** units within their pathway. All learners have to complete a minimum of **6 units**. The qualification has a **Total Qualification Time (TQT) of 600** hours of which **360 are Guided Learning (GL)**.

**Mandatory units: All learners must complete the three mandatory units:**

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 001	Working Safely within rail engineering	60	J/615/1189
RETK3 - 002	Mathematics for engineers	60	A/615/1190
RETK3 - 003	Engineering solutions and innovation within the rail industry	60	F/615/1191

**Engineering principles units: All learners must select at least one engineering principles unit:**

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 004	Electrical and Electronic Principles	60	J/615/1192
RETK3 - 005	Mechanical Principles	60	R/615/1194

**Sector pathways: All learners must complete the full requirements of one pathway below:**

**Pathway RTKA Track: both units must be selected:**

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 006	Railway Infrastructure Construction and Maintenance	60	Y/615/1200
RETK3 - 007	Rail Technologies	60	H/615/1202

**Pathway RTKB Overhead line: unit RETK3-014 and one from either RETK3-015 or RETK3-016 must be selected:**

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 014	Overhead line infrastructure	60	J/615/1225
And one from:			
RETK3 - 015	Overhead line Technologies (Construction)	60	Y/615/1228
RETK3 - 016	Overhead line Technologies (Maintenance)	60	D/615/1229

## Structure

### Pathway RTKC: Signalling: both units must be selected:

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 017	Functions and Characteristics of Railway Signalling Systems	60	H/615/1233
RETK3 - 018	Signalling Technologies	60	K/615/1234

### Pathway RTKD: Telecoms pathway: both units must be selected:

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 019	Telecommunications Technologies	60	M/615/1235
RETK3 - 020	Telecommunications Principles	60	T/615/1236

### Pathway RTKE Electrification: both units must be selected:

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 012	Features and Application of Electrical Machines	60	T/615/1222
RETK3 - 013	Rail Electrification Technologies	60	A/615/1223

### Pathway RTKF Traction and rolling stock: both units from either Group A or group B must be completed

#### Group A

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 008	Overground rail vehicle traction and associated systems	60	J/615/1208
RETK3 - 009	Overground rail passenger comfort, safety and security	60	R/615/1213

#### Group B

EAL Code	Unit title	GL(hrs)	Ofqual Code
RETK3 - 010	Underground rail vehicle traction and associated systems	60	D/615/1215
RETK3 - 011	Underground rail passenger comfort, safety and security	60	K/615/1220

