

LEVEL 2 COMBINED NVQ & TQT STRUCTURE FOR TUNNELLING OPERATIONS (CONSTRUCTION)

Version 1 of the combined NVQ and TQT structure January 2024

Guided Learning Hours eg contact time or supervised learning with a mentor/tutor/supervisor including onsite or in a classroom.

Assessment – The average hours it would take to assess the candidate's competence in the particular function – this **can** contribute to guided learning, but this has been kept separate in building the qualification value

Other Learning – eg Learners own study/research, practice of skills, compilation of portfolio of work evidence

Duplicated Learning – units are derived from National Occupational Standards. When the units are combined for the occupational NVQ, elements of learning in one **occupational** unit are repeated in others. Hence there is a degree of duplication. The organisations involved in determining TQT also agree the amount of time in each **occupational** unit that is duplicated. For this NVQ, these elements are considered to represent 40 hours. This needs to be included for TQT once for the **occupational** units, so where there are two **occupational** units (excluding core units 641, 642, 643, 209, 210 and 211) 1 x 40 hours would be deducted similarly where there are three **occupational** units (excluding **core** mandatory units 641, 642, 643, 209, 210 and 211), there would be a deduction of 2 x 40 hours = 80 hours

Nb: as qualifications are currently still built on units, which individually state guided learning hours, which has in the past excluded assessment, the values are shown separately

Nb: previous/older forms reflect Ofqual TQT guidance from March 2015 'After the QCF', where qualifications had to have Guided Learning, Directed Learning and Invigilated Assessment assigned as components of TQT

PATHWAY 1 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - HAND MINING

MINIMUM TQT FOR THIS PATHWAY = 1210

MINIMUM NUMBER OF UNITS = 5

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
175v3	Constructing temporary or permanent tunnel linings in the workplace	210	10	300	520	2	M	Y	
177v3	Excavating and profiling tunnels in the workplace	410	10	210	630	2	M	Y	
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
390Tv4	Preparing and operating specialist tunnelling plant to form tunnels in the workplace	247	10	483	740	2	A	Y	PLO
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		654	50	546					
Totals		704		546					
Total TQT minus Duplicated Learning				1210					

PATHWAY 2 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - SHAFT MINER
MINIMUM TQT FOR THIS PATHWAY = 710
MINIMUM NUMBER OF UNITS = 4

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
178v3	Constructing shafts in the workplace	430	10	170	610	2	M	Y	
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
390Tv4	Preparing and operating specialist tunnelling plant to form tunnels in the workplace	247	10	483	740	2	A	Y	PLO
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					0				
Sub - Totals		464	40	206					
Totals		504		206					
Total TQT minus Duplicated Learning				710					

PATHWAY 3 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - TUNNELLING MACHINE OPERATOR
MINIMUM TQT FOR THIS PATHWAY = 1470
MINIMUM NUMBER OF UNITS = 5

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
177v3	Excavating and profiling tunnels in the workplace	410	10	210	630	2	M	Y	
390Tv4	Preparing and operating specialist tunnelling plant to form tunnels in the workplace	247	10	483	740	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					0				
Sub - Totals		691	50	729					
Totals		741		729					
Total TQT minus Duplicated Learning				1470					

**PATHWAY 4 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - MACHINE
TUNNELLING OPERATIVE**

MINIMUM TQT FOR THIS PATHWAY = 760

MINIMUM NUMBER OF UNITS = 6

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
174v3	Installing tunnelling services in the workplace	70	10	30	110	2	M	Y	
175v3	Constructing temporary or permanent tunnel linings in the workplace	210	10	300	520	2	M	Y	
400v2	Preparing and operating powered units, tools or pedestrian plant, machinery or equipment in the workplace	23	5	42	70	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		337	55	408					
Totals		392		408					
Total TQT minus Duplicated Learning			760						

**PATHWAY 5 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - SPOIL REMOVAL
CONVEYOR OPERATIVE**

MINIMUM TQT FOR THIS PATHWAY = 370

MINIMUM NUMBER OF UNITS = 6

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
174v3	Installing tunnelling services in the workplace	70	10	30	110	2	M	Y	
176v3	Operating a spoil removal conveyor in the workplace	40	10	30	80	2	M	N	
396Cv1	Preparing to and directing and guiding the movement of vehicles, plant or machinery in the workplace	40	10	70	120	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		184	60	166					
Totals		244		166					
Total TQT minus Duplicated Learning			370						

**PATHWAY 6 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - OVERGROUND
SPOIL REMOVAL CONVEYOR OPERATIVE**

MINIMUM TQT FOR THIS PATHWAY = 180

MINIMUM NUMBER OF UNITS = 4

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
809v1	Operating an overground spoil removal conveyor in the workplace	40	10	30	80	2	M	N	
Additional - Not Mandatory									
N/A	N/A	N/A	N/A	N/A					
Duplicated learning					0				
Sub - Totals		74	40	66					
Totals		114		66					
Total TQT minus Duplicated Learning				180					

**PATHWAY 7 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - TUNNELLING
OPERATIVE**

MINIMUM TQT FOR THIS PATHWAY = 400

MINIMUM NUMBER OF UNITS = 6

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
174v3	Installing tunnelling services in the workplace	70	10	30	110	2	M	Y	
396Cv1	Preparing to and directing and guiding the movement of vehicles, plant or machinery in the workplace	40	10	70	120	2	M	Y	PLO
400v2	Preparing and operating powered units, tools or pedestrian plant, machinery or equipment in the workplace	23	5	42	70	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					0				
Sub - Totals		167	55	178					
Totals		222		178					
Total TQT minus Duplicated Learning				400					

PATHWAY 8 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - TUNNEL TRANSPORT OPERATOR

		MINIMUM TQT FOR THIS PATHWAY = 450				MINIMUM NUMBER OF UNITS = 4			
UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
391Tv4	Preparing and operating specialist plant to receive, transport and discharge materials in a tunnelling environment	117	10	223	350	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					0				
Sub - Totals		151	40	259					
Totals		191		259					
Total TQT minus Duplicated Learning				450					

PATHWAY 9 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - TUNNEL FITTER'S OR TUNNEL ELECTRICIAN'S MATE

		MINIMUM TQT FOR THIS PATHWAY = 300				MINIMUM NUMBER OF UNITS = 5			
UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
174v3	Installing tunnelling services in the workplace	70	10	30	110	2	M	Y	
768v2	Carrying out routine maintenance of tunnelling plant, machinery and equipment in the workplace	70	10	50	130	2	M	Y	
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		174	50	116					
Totals		224		116					
Total TQT minus Duplicated Learning				300					

**PATHWAY 10 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - SPRAYED
CONCRETE LINING – TUNNELLING NOZZLEMAN**

MINIMUM TQT FOR THIS PATHWAY = 1210

MINIMUM NUMBER OF UNITS = 6

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
123v3	Preparing substrate for sprayed concrete in the workplace	90	10	100	200	2	M	Y	SCO
124v4	Applying sprayed concrete in the workplace	90	10	110	210	2	M	Y	SCO
390Tv4	Preparing and operating specialist tunnelling plant to form tunnels in the workplace	247	10	483	740	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		461	60	729					
Totals		521		729					
Total TQT minus Duplicated Learning				1210					

**PATHWAY 11 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - PIPE JACKING,
BOX JACKING, OR MICRO-TUNNELLING OPERATIVE**

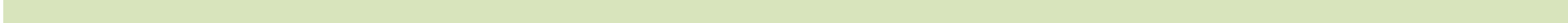
MINIMUM TQT FOR THIS PATHWAY = 670

MINIMUM NUMBER OF UNITS = 5

UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
174v3	Installing tunnelling services in the workplace	70	10	30	110	2	M	Y	
569v3	Constructing tunnels by pipe jacking, box jacking, or micro-tunnelling operations in the workplace	330	10	160	500	2	M	Y	
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		434	50	226					
Totals		484		226					
Total TQT minus Duplicated Learning				670					

**PATHWAY 12 – LEVEL 2 NVQ IN TUNNELLING OPERATIONS - SEPARATION
PLANT OPERATIVE**

		MINIMUM TQT FOR THIS PATHWAY = 500				MINIMUM NUMBER OF UNITS = 6			
UNIT	TITLE	GUIDED LEARNING HOURS		OTHER LEARNING	TQT	Level	Unit type	Endorse	Imported unit Owner
		EXISTING GLH	ASSESSMENT						
174v3	Installing tunnelling services in the workplace	70	10	30	110	2	M	Y	
233v3	Preparing for and carrying out slurry, or fluid plant operations in the workplace	150	10	100	260	2	M	Y	
400v2	Preparing and operating powered units, tools or pedestrian plant, machinery or equipment in the workplace	23	5	42	70	2	M	Y	PLO
641	Conforming to general health, safety and welfare in the workplace	7	10	3	20	1	M	N	WO
642	Conforming to productive working practices in the workplace	10	10	10	30	2	M	N	WO
643	Moving, handling and storing resources in the workplace	17	10	23	50	2	M	N	WO
Additional - Not Mandatory									
492v2	Carrying out structural waterproofing in the workplace	60	10	110	180	2	A	N	SBW
Duplicated learning					-40				
Sub - Totals		277	55	208					
Totals		332		208					
Total TQT minus Duplicated Learning			500						





OCCUPATIONS AFFECTED BY CHANGES TO THIS STRUCTURE

Level 3 Piling Operations - Mud Operative pathway

NWG members represented when determining occupation specificTQT values

TunnelSkills

Bouygues

Tunnelcraft

J3M Construction Training

London Bridge Associates

Global Tunnelling Experts

Barhale

Rorcon

Transport for London

National Specialist Accredited Centre

SCS Railways (Unit 809)

Unit endorsements for LEVEL 2 NVQ in TUNNELLING OPERATIONS (CONSTRUCTION)

CITB unit

ref Endorsement

123	<p>Seven of the following:</p> <ul style="list-style-type: none"> Locate and protect services Break out loose and debonded materials Roughen smooth surfaces Clear and clean Surface profile levels Tie and secure reinforcement bar and/or mesh Fit guide wires Fit depth pins Erect formwork Record and report the work carried out
124	<p>Five of the following:</p> <ul style="list-style-type: none"> Pre-wet surfaces Spray concrete to profile Produce samples for testing Cure and protect concrete Record and report on test Record and report on spraying Operate spraying nozzle Operate pump Clean pump Clear lines
174	<p>Three of the following:</p> <ul style="list-style-type: none"> Ventilation systems Pressurised systems (slurry lines, or air and water supply systems) Walkways Cables and pipelines Materials handling systems (rail, or conveyor, or piped) Service brackets
175	<p>One of the following:</p> <ul style="list-style-type: none"> Mechanised Non-mechanised
177	<p>One of the following:</p> <ul style="list-style-type: none"> Hand mining Drilling and blasting Mechanised tunnel excavation
178	<p>One of the following:</p> <ul style="list-style-type: none"> Underpinning Caisson sinking Sheet piles and frames or concrete piles and frames Drilling and blasting

233	One of the following: Tunnelling Pipe jacking Shaft sinking
390	One of the following: Unshielded rock tunnel boring machine Shielded rock tunnel boring machine Shield mounted hydraulic excavating arm Road header above 50te Road header below 50te Road header bucket below 50te Pre vault method Drill rig (rail or gantry or truck mounted) Excavator Sprayed concrete plant and equipment Remote and/or pedestrian control operation Remote tunnel excavation machine or equipment
391	One of the following: Loco and rolling stock Underground bulk systems (explosives transportation)
396	Movement guide marshaller Loader/securer
400	One of the following: Generators Pumps Pedestrian operated plant or machines Mixers Compressors Self-powered tools
569	One of the following: Pipe jacking Box jacking Micro-tunnelling
768	At least three of the following: Cooling systems Oils and lubricants Fuels Pressurised systems Ventilation or ducting systems Power cabling and equipment Electrical control systems Communication systems Lighting, or signalling, or monitoring, equipment

[Note: Where industry requests an Awarding Organisation to further endorse a unit, the Awarding Organisation must first seek approval from CITB.](#)

Issued to BEABF members in January 2024