Annex 14 – Sanitary appliances

Annex 14 - Common Minimum Technical Competency Requirements for the Installation of Sanitary Appliances, Sinks and Associated Pipework in Dwellings				
Routes to demonstrating required competence				
Route	**Qualifications/Certification**	**Experience / Evidence**	Inspection / Assessment	
			On –Site	Off-Site
1a	QCF Level 3 NVQ Diploma in Domestic Plumbing and Heating **OR** SVQ Level 3 in Plumbing	Must have evidence of work carried out to be able to demonstrate their practical competence for the scope for which they have applied in accordance with the competence requirements stated in this annex.	Yes	No
1b	**QCF Unit Achievement of units:** D/502/9296 - Understand and apply domestic sanitation system installation, commissioning, service and maintenance techniques		Yes	No
1c	NVQ Level 3 in Plumbing or Advanced Craft Certificate in Plumbing		Yes	No
2	Alternative certification that has been mapped to the competence requirements within this Annex and agreed by SummitSkills as aligning with the competence requirements within this annex and aligning with the related requirements for acceptance as alternative certification		Yes	No
3	Registered with a Building Regulations Competent Person Scheme or certificated by another a UKAS Accredited Certification Body for the type of work covered in this annex		Yes	No
4	Qualifications/certification other than above or no formal Qualification	Minimum of 3 years verifiable relevant experience covering the competence requirements stated in this annex and successful completion of the Experienced Worker Assessment	Yes	Yes

NOTES

Route 4 - Experienced Worker Assessments will be conducted by the registering Scheme Operator or Certification Body who shall assess the Enterprise's evidence of meeting the underpinning knowledge and practical competence requirements as stated in this annex. Note: Experienced worker assessment enable the competences within this annex to be assessed and demonstrated but do not lead to the award of a qualification.

Area of Competence		Installation of sanitary appliances, sinks and associated pipework in dwellings		Annex 14
Competence requirement The installer must:		**Context/Scope**	**NOS Ref.**	**Further Guidance**
1	Know the uses of sanitary appliances and their operating principles	Know the purpose and different types of sanitary appliances used in dwellings		
		Know the working principles of sanitary appliances: • conventional WCs • WC macerators • baths • bidets • wash hand basins • showers/cubicles • sinks • sink waste disposal units • waste water lifters		
2	Know the types of sanitary pipework system and system layout requirements	Know the types of sanitary pipework system/connection and know where they may be used in dwellings: • primary ventilated stack system • secondary ventilated stack system • ventilated branch discharge system • stub stack systems • waste appliance connections to gullies • waste appliance connections direct to drain • WC connection direct to drain		
		Know the factors that lead to trap seal loss in sanitary pipework systems Know the system layout features for discharge stacks (wetted portion) at the foot of the stack in buildings up to 5 storeys in height: • type of bend • proximity of low level connections		

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Competence requirement The installer must:		Context/Scope	NOS Ref.	Further Guidance
2	Know the types of sanitary pipework system and system layout requirements (continued)	Know the system layout features for discharge stacks (wetted portion): • soil stack sizes based on WC outlet size • waste stack sizes serving waste appliances only • use of bends in the wetted portion of the stack		
		Know the system layout features for branch discharge pipework: • layout of unventilated and ventilated branch discharge pipework – maximum length of pipework and pipework gradient • sizes of branch discharge pipework for soil and waste appliances • use of traps and self sealing valves in preventing noxious smells in buildings • methods of ventilating branch discharge pipework • methods of connecting multiple waste appliances to branch discharge pipework • methods of connecting branch discharge pipework into the main stack		
		Know the system layout features for stack ventilation (dry portion of the stack) : • proximity of vent outlet to openable windows and other openings into the building • use of air admittance valves		

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2	Know the types of sanitary pipework system and system layout requirements (continued)	Know the use of air admittance valves in above ground sanitary pipework systems: • types of air admittance valves • their suitability of use in the various types of pipework system • application on multi-dwelling housing estates		
		Know the statutory requirements for the provision of sanitary facilities and equipment in dwellings for the disabled: • spacing requirements of the human body • appliance space requirements for the disabled		
		Know the working principles and layout features for foul tanks in sanitation systems: • cesspits • septic tanks		
		Know the periodic maintenance and cleaning requirements of foul tanks: • cesspits • septic tanks		
		Know the working principles and system layout features of specialist sanitary components: • WC macerators • waste water lifters • sink waste disposals		

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3	Know the site preparation techniques and be able to undertake the site preparation techniques for sanitary appliances and connecting pipework systems	Know the sources of information required when carrying out work on sanitary appliances and pipework systems: • statutory regulations • industry standards • manufacturer technical instructions	SUMMES7 K2	
		Know the preparatory work required to be carried out to the building fabric in order to install or decommission sanitary appliances and pipework systems	SUMMES7 K2 SUMMES7 P10	
		Know the protection measures and be able to apply the protection measures required to the building fabric or customer property, during and on completion of work on sanitary appliances and pipework systems	SUMMES7 K9 SUMMES7 P10	
		Know the pipework materials and fittings and be able to select the pipework materials and fittings required to complete work on sanitary pipework systems ensuring that they are not damaged	SUMMES7 K10 SUMMES, P2, 9	
		Know the hand and power tools be able to select the hand and power tools required to complete work on sanitary appliances and pipework systems	SUMMES7 K10 SUMMES7 P2	

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Competence requirement The installer must:		Context/Scope	NOS Ref.	Further Guidance
4	Know the installation requirements of; and be able to undertake the installation of sanitary appliances and connecting pipework systems	Know how to and be able to assemble and prepare for installation sanitary appliance fixtures and fittings: • waste fittings to appliances • terminal fittings to appliances • flushing cistern assemblies • pre-fabricated bath supports and fixings • WC macerator • waste water lifter • sink waste disposal unit	SUMMES10, K3,4,5 SUMMES10 P2	
		Know how to and be able to make joints to sanitary pipework systems: • ring seal joints • solvent weld joints • compression joints • specialist joints such as pan connectors	SUMMES10 K2 SUMMES10 P2	
		Know how to select brackets appropriate to the sanitary pipework and the industry recommended spacings: • horizontally mounted pipework • vertically mounted pipework	SUMMES10 K3	
		Know how expansion and contraction may be catered for in plastics pipework: • ring seal joints • solvent weld joints • compression joints	SUMMES10 K2	
		Know the positioning and fixing requirements of; and be able to, position and fix sanitary appliances • conventional WCs (not macerators) • baths • bidets • wash hand basins and sinks • showers/cubicle	SUMMES10 K3	

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4	Know the installation requirements of; and be able to undertake the installation of sanitary appliances and connecting pipework systems (continued)	Know the methods for positioning and fixing WC macerators and waste water lifters: • reference to manufacturer's instructions • vertical lift position • use of long radius bends • pipework material selection and assembly	SUMMES10, K2,3,4	
		Know the methods for positioning and fixing sink waste disposal units: • reference to manufacturer's instructions • trapping and branch discharge pipework requirements	SUMMES10 K2,3,4	
		Know the suitability of below ground drainage systems to receive foul soil and waste water: • combined drainage systems • separate drainage systems • partially separate drainage systems	SUMMES10 K4	
		Know suitable methods for making ; and be able to make, new plastic pipework connections: • soil stack at ground level to below ground plastic, clay or cast iron drainage pipework • waste pipework discharging to ground floor gullies • stub waste connection to ground floor drainage pipework • WC pan connector direct to ground floor drain • soil and waste connections to existing cast iron pipework • soil and waste pipework to existing plastic pipework	SUMMES10 K4 SUMMES10 P2	
c	Know the decommissioning requirements of sanitary appliances and connecting pipework systems	Know the information that needs to be provided to other persons before decommissioning work takes place and be able to advise appropriate persons before a sanitary appliance or pipework system is isolated in order to undertake work	SUMMES13, K2 SUMMES13 P1	
		Know the procedures for safely handling sanitary appliances and pipework components that may be contaminated with foul waste	SUMMES13 K3	

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Competence requirement The installer must:		**Context/Scope**	**NOS Ref.**	**Further Guidance**
5	Know the decommissioning requirements of sanitary appliances and connecting pipework systems (continued)	Know how to temporarily decommission and be able to temporarily decommission sanitary appliances and connecting pipework systems	SUMMES13 K4 SUMMES13 P3	
		Know the methods used during the decommissioning process and be able to apply the methods during the decommissioning process to prevent the end-user from operating the appliance or system: • temporary capping of pipework sections • use of warning notices and signs	SUMMES10 K4 SUMMES13, P4	
6	Know the inspection and soundness testing requirements of sanitary appliances and connecting pipework systems and be able to inspect and soundness test sanitary appliances and connecting pipework systems	Know the checks to be carried out during a visual inspection of a sanitation system to confirm that it is ready to receive foul water and be able to carry out a visual inspection of a sanitation system to confirm that it is ready to receive foul water	SUMMES25 K1 SUMMES25 P1,2	
		Know how to and be able to carry out an air test on a sanitary pipework system to industry requirements	SUMMES25, K1 SUMMES25, P3,4	
		Know the actions that must be taken when inspection and testing reveals defects in sanitary pipework systems: • dealing with systems that do not meet correct installation requirements • remedial work associated with defective pipework bracketing • remedial work associated with leakage from pipework systems	SUMMES25 K4	

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Competence requirement The installer must:		Context/Scope	NOS Ref.	Further Guidance
7	Know the commissioning requirements of; and be able to commission sanitary pipework systems and components	Know how to interpret information sources required to complete commissioning work on sanitation systems	SUMMES27, K1	
		Know the checks to be carried out during a visual inspection of a sanitation system and be able to carry out a visual inspection of a sanitation system to confirm that it is ready to be operated	SUMMES25 K1 SUMMES25 P1,2	
		Know how to performance test sanitation systems to test for trap seal retention and be able to carry out a performance test on a sanitary pipework system to check for effective trap seal retention: • branch discharge pipework - test for self siphonage - test for induced siphonage • main discharge stack - test for induced siphonage and compression	SUMMES25 K1 SUMMES25 P5	
		Know the commissioning procedures for macerator type WCs and be able to commission a WC with macerator pump installation	SUMMES27 K1,2,3 SUMMES27 P3,4	
		Know the actions that must be taken when commissioning reveals defects in sanitation systems	SUMMES27 K8	
		Know the range of information that would be detailed on a commissioning record for a sanitation system	SUMMES27 K6	
		Know the procedure for notifying works carried out to the relevant authority	SUMMES27 K6	
		Know the points to be covered when handing over a completed system to the end-user	SUMMES27 K7	

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Competence requirement The installer must:		**Context/Scope**	**NOS Ref.**	**Further Guidance**
8	Know the design techniques for sanitation systems and be able to apply design techniques for sanitation systems	Know the factors which affect the selection of sanitation systems for dwellings	SUMMES8 K4	
		Know the criteria used when selecting sanitation systems and appliances: • customers needs • building layout and features • suitability of system • energy efficiency • environmental impact	SUMMES8 K1,2,5	
		Be able to use information sources when undertaking design work for sanitation systems: • statutory regulations • industry standards • manufacturer technical instructions • verbal and written feedback from the customer	SUMMES8 K3	
		Know the fire stopping arrangements required under statutory legislation as they apply to sanitary pipework passing between fire compartments in a dwelling	SUMMES8 K3	
		Know how to calculate the sanitary provision requirements for dwellings	SUMMES8 K4	
		Know the method of sizing and selecting the correct gradient for branch pipework used in sanitary pipework systems	SUMMES8 K4	
		Know the methods used when designing a sanitary pipework system: • main stack size • branch pipework sizes • ventilation requirements - air admittance valves - ventilating pipes	SUMMES8 K4	

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8	Know the design techniques for sanitation systems and be able to apply design techniques for sanitation systems	Know how to and be able to calculate (using simple calculations) the size of sanitary pipework used in single occupancy dwellings: • main stack size • branch pipework size • stack vent size	SUMMES8 K4 SUMMES8 P7,8	
		Be able to present design calculations in an acceptable format: • using basic not to scale line drawings • details for insertion into a quotation or tender for work in a small-scale dwelling	SUMMES8 P8	

Annex 14 - Technical Reference Document Requirements

The Enterprise shall hold or have access to current editions, including all amendments, of the documents (or recognised equivalent documents) listed in the following table

Technical Reference Documents for the Installation of Sanitary Appliances, Sinks and Associated Pipework in Dwellings
Building Regulations Approved Document to support Regulation 7 (1999 Edition incorporating 2000 amendments)
Building Regulations Approved Document H (2010 Edition)
BS 8000 – 13: 1989 Workmanship on building sites Part 13: Code of practice for above ground drainage and sanitary appliances
Additional recommended guidance documents
BS EN 12056-1:2000 Gravity drainage systems inside buildings. General and performance requirements
BS EN 12056-2:2000 Gravity drainage systems inside buildings. Sanitary pipework, layout and calculation