

SCALE 1
MAIN INTRODUCTORY NOTES

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INTRODUCTION

1 The scales in the Services Accommodation Code, hereafter termed the scales, are the general standards set by the MOD with the agreement of HM Treasury for the provision of accommodation for the regular British Armed Forces. Some of the scales also apply to other organisations in the MOD.

2 Scale 1 qualifies all the other scales and contains matters that are common to most of them. It should be read in conjunction with them.

3 Scale 1 has five Parts:-

- Part 1 - Application of the Scales
- Part 2 - Content of the Scales
- Part 3 - Mandatory requirements
- Part 4 - General facilities
- Part 5 - Tropical and sub-tropical provision.

Definitions

4 For the purposes of the scales UNIT means a unit, barracks, station or other MOD establishment; ESTABLISHMENT means the complement of a UNIT, and GARRISON means UNITS within a base area or in close proximity.

5 The expression 'not Works Supply' as used in the scales indicates that an item or facility is provided from public funds, but not usually as part of the construction contract.

6 References to specific Parts of the Building Regulations are to the Building Regs for England and Wales. Where appropriate, this should be read as the equivalent legislation in Scotland and Northern Ireland.

7 - 10 Spare.

PART 1 - APPLICATION OF THE SCALES**General**

11 The scales are not an automatic entitlement. They have to be compared with defined requirements, which have to be justified, together with any variations from the scales, in accordance with the policies and procedures prescribed in JSPs 462 (Financial Management Policy Manual) 434 (Property Management) and 435 (Works Projects).

12 The scales give information and guidance to those concerned with the provision of accommodation. Applied in accordance with MOD policies and procedures, the scales provide a sound basis for financial control in achieving value for money in both initial capital costs and subsequent maintenance. Details of building standard costs and the standard cost system are given in the Defence Estates Reference Cost Manual (JSP 315 Volume 2).

13 These scales do not cater for all types of accommodation required by the Armed Forces and the MOD, e.g. hospitals, children's schools and stores depots. In such cases other special scales or the appropriate scales and standards prescribed by other government departments are to be applied in accordance with MOD and Service criteria.

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Further advice can be obtained from Defence Estates (DE). Nevertheless, the scales, or parts of them, should be applied where appropriate.

New Construction and Modernisation.

14 The scales apply particularly to the provision of new permanent buildings but will also form the basis for the modernisation or conversion of existing permanent buildings. A permanent building is defined as one which has a future life of at least 20 years with normal maintenance.

15 When in modernisation or conversion it is not possible to provide the areas specified in the scales, any enlargement or reconstruction to make good the deficiency, or to modernise over-scaled areas, will need to be justified in accordance with Serial 11.

16 Defence Estates Operations (Housing) is responsible for all aspects of housing management, maintenance, and new build arrangements for the Service Family Housing Estate in England, Scotland and Wales.

17 - 20 Spare.

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PART 2 - CONTENT OF THE SCALES

21 Each scale gives detail of all or some of the following standards.

Area

22 The area for each facility. Internal areas are the floor areas within the finished containing walls.

Area Addition

23 With the exception of Families Quarters, and unless otherwise stated, the areas specified in the scales exclude circulation, (e.g. entrances, staircases, corridors), internal walls, partitions, toilet and ablution areas, calorifier rooms and other plant rooms. The Reference Cost Manual gives an allowance, called Area Addition, that may be added to the total scaled area of a building to cater for these elements. A summary is given at Annex A to this scale.

Fixtures and Fittings

24 The fixtures and fittings detailed in the scales are, unless otherwise stated, provided as works services.

Furniture

25 The Joint Services Furnishing Committee is responsible for scaling fitted and free standing furniture. The latter is Defence Accommodation Stores (DAS) and is issued in accordance with Joint Services Scales of Accommodation Stores JSP 308 and single Service instructions.

26 The authorised scales of fitted furniture and vanity units are shown in the relevant JSP 315 scales. Fitted furniture is normally procured as part of the works service

27 Crown Fire Standard F7, Furniture, Furnishings and Textiles, covers the fire requirements for furniture. Particular attention is drawn to JSP 308, JS/168, which covers furniture for underground accommodation.

Soft Floor Finishes

28 Soft floor finishes (e.g. carpets) in Service buildings are normally DAS items. The policy for their provision is contained in JSP 384 and scalings are in JSP 308. Where soft floor finishes are provided as part of the works contract, they are to comply with the appropriate DAS specification.

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PART 2 - CONTENT OF THE SCALES (contd)**Curtain Fittings**

29 Where curtains are scaled by JSP 308, the track and fittings are to be provided as a works service. Offices and similar rooms whose windows face east to west through south may be provided with sun blinds.

Building Services

30 The Mechanical and Electrical Engineering (M&E) Services column gives the building services to be provided as a works service within the building as well as any associated external work.

Heating

31 Unless otherwise specified in the scales, permanent buildings in the UK, in NW Europe and in other theatres where the climatic conditions warrant it, will normally be centrally heated to the levels quoted.

32 The method of heating, the type of fuel used, and its storage, will be determined by official policy, legal requirements and cost effectiveness. The same applies to cooking systems.

33 The temperatures quoted in the scales are dry resultant temperatures as measured by a small globe thermometer which senses heat due to convection and radiation.

Lighting

34 The standards of illumination quoted are the average values on the normal working plane, usually at desk or bench height. Where the precise height of the task cannot be specified, the working plane is taken as 0.85m above floor level. In corridors, entrances, lifts, staircases and toilets, the illumination is the value at floor level.

35 The lighting standards assume a reasonable standard of cleanliness of luminaires and of building fabric decoration.

36 The type of lighting, together with its associated fittings, to achieve the standard of illumination is to be agreed at detailed design stage. The fittings e.g. lampshades, are to be provided as part of the works service.

37 Consideration should be given to the use of energy efficient light fittings in the planning of new buildings.

PART 2 - CONTENT OF THE SCALES (contd)**Electrical and Other Supplies**

38 The characteristics of electrical supplies, compressed air and other systems are quoted to British standards. Overseas, where local systems are installed, these should be arranged, wherever possible, to allow safe connection of standard UK equipment.

Air Conditioning and Mechanical Ventilation

39 It is MOD policy not to specify air conditioning or mechanical ventilation, unless it can be shown that there is an unavoidable design or operational requirement that makes natural ventilation unsuitable.

40 Additionally, Building Regulations or Crown Fire Standards require mechanical ventilation in certain areas.

41 Part 5 contains the detail for the provision of air conditioning, cooling fans, additional floor areas and water coolers that may be provided in accommodation at tropical and sub-tropical stations.

Planning Notes

42 In the column on planning notes, attention is drawn to any legal requirements, authorised drawings or standards that require compliance, and to qualifications in provision.

Design Guides

43 Some of the scales are supplemented by design guides which contain further information on legislative and other mandatory requirements, and recommend designs, minimum standards in construction, fixtures and services that experience has proved to be best practice for Service use.

Self Harm

44 In planning buildings, particularly Living Accommodation, designers are to be aware of the risk of self-harm by service personnel, and are to bear the potential for this in mind when selecting fixtures and fittings for accommodation.

45 - 50 Spare

PART 3 - MANDATORY REQUIREMENTS

51 Part 3 sets out the mandatory requirements which apply to all design, construction and provision of facilities covered by the scales.

Legislation and Regulations

52 All relevant legislation and regulations, including those issued by MOD, are to be complied with for design, construction, technical safety of equipment and installations, health and safety, and the environment. The procedures to be followed are set out in JSPs 434 and 435.

53 Overseas, unless local legislation is more onerous, British legislation and regulations are to be adhered to.

Disabled Persons

54 The scales make no specific provision for disabled employees or Service dependants. Nevertheless there is a legal requirement to implement Part M of the Building Regulations, or exceptionally to obtain dispensation by formal submission to D E.

Fire Precautions

55 Crown Fire Standards and Departmental Regulations cover fire precautions requirements in the MOD. The Defence Fire Service (DefFS) is responsible for all fire safety matters affecting the MOD Estate and the application of Crown Fire Standards at home and overseas. The main headings under which fire precaution measures have to be agreed with the DefFS are:

Building legislation.

Boundary distances.

Access for fire appliances.

Water supplies for fire fighting.

Structural and occupational fire precautions.

Means of escape.

Fire alarm and fire detection systems.

Automatic fire ventilation.

Fire suppression systems and fixed and portable fire equipment.

PART 3 - MANDATORY REQUIREMENTS (contd)

56 The fire alarm system may also be required to sound other alarms, such as bomb alerts.

Security

57 As the degree of security required will depend on MOD and Service security instructions, the threat, the location and the type of unit, the Project Sponsor will need to implement the measures to be provided in agreement with the appropriate security authority. See Part 4 Serial 82 for crime prevention aspects.

Paved Areas, Roads, and Road Furniture

58 Where paved areas and roads are to be provided, these and any road furniture are to comply with local legislation and MOD Technical Instructions (produced by DE).

Signs

59 The Project Sponsor (or Property Manager as appropriate) is responsible for the provision, display, and maintenance in a unit of all permanent external and internal signs and notices including those for direction, traffic (including road markings and signals), safety, boundaries, location, and unit identity.

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60 All signs are to comply with the relevant legislation and regulations, information on which may be obtained from DE.

61 External signs can be obtained from a contract with HM Prison Coldingley, which will ensure that standardised low maintenance signs are used. Except where illuminated signs are a requirement of the Road Traffic Acts, all other traffic signs should be made of retro-reflective materials to Class 1 as detailed in BS 783 pt 6.

62 In the UK, DE provide, erect and maintain military bye-law notices and any signs outside unit boundaries for safeguarding training areas and range danger areas, including any public access routes through them. The prior approval of the local authority is required for directional signs outside a unit.

63 Local authorities may provide and maintain signs, including markings and signals, on roads which they maintain; any charges they may raise will be met locally.

64 Location signs include identifications such as building, house, facility and room designations and numbers, and are normally provided as part of the works service.

PART 3 - MANDATORY REQUIREMENTS (contd)

Refuse Disposal

65 Facilities are to be provided for the storage of refuse and waste until collected for disposal. Some of the scales include such provision for hazardous waste. The nature of the provision will depend on the type of refuse, the relevant legislation, the local authority's policy and the method of collection. Bulk refuse and waste containers are provided as a works service when not provided by the local authority or contractor.

Toilet Areas

66 Unless otherwise specified in a scale, at places of work toilets are to be provided in accordance with Annex B to this scale.

67 Where the total number of male and female personnel is five or less, only one WC with wash hand basin (WHB) is to be provided.

68 If, in the opinion of the appropriate medical authority, toilets are not located within a reasonable distance, additional toilets may be provided. The additional provision should not exceed:-

WCs and WHBs	1.0% of Establishment
Urinals	0.5% of Establishment

69 Adequate provision for disabled people should be provided in accordance with the Building Regulations.

70 - 80 Spare

PART 4 - GENERAL FACILITIES

81 Part 4 details provision of facilities that need consideration and those of a miscellaneous nature.

Crime Prevention

82 Designing out crime at the planning stage ensures that security can be incorporated into the design and layout of a project in a cost effective way, offering many additional benefits. Defence Police Crime Reduction personnel can advise on layout and design at the conceptual stage so that the appropriate measures can be taken to design out crime at the earliest opportunity, ensuring that the proposed facilities meet the criteria of Crime Prevention Through Environmental Design (CPTED).

Energy Management

83 Where it is practical and cost effective, buildings should be individually metered for electricity, gas, fuel oil and water to ensure effective energy management. Consideration should also be given to re-cycling water.

Noise

84 The effect of noise, whether from internal or external sources, on the occupants of a building should be assessed at the design stage and, where necessary, steps taken to minimise it. Designers should refer to the BRE Digests on Sound Acoustics, Insulation and Noise.

Telecommunication and Information Systems Facilities

85 Requirements for telecommunications and information systems facilities vary considerably; however these systems feature in almost all workplaces, and can be expected to do so increasingly as technology advances. Those places that are potentially affected are office accommodation, workshops, stores and warehouses, POL dispense points and MT garages amongst others. It should be assumed from the outset that communications and information systems will be used in all workplaces unless it can be proved to the contrary.

86 Fibre optic generic cabling installed to ISO/IEC 11801 standard, which can be used by a large number of different systems, provides flexibility which permits changes within workplaces to be effected without further cost. It is crucial that any communication and information systems infrastructure requirement are included at a very early stage

PART 4 - GENERAL FACILITIES (contd)

in any project, and must be included in the Development Brief section of establishment development plans. Some large sites, e.g. garrison towns, airfields, or naval bases, will have an overarching Communications Information System (CIS) infrastructure plan, and it is crucial that this is consulted before progressing with incremental developments on such a site. Significant economy can be achieved by installing systems during construction rather than later.

87 The information systems cable infrastructure is to be the subject of a design study, undertaken by a specialist contractor on behalf of the main contractor, which will determine trunking and ducting routes, type and capacity of and locations within buildings of computer and network equipment rooms. Design staff must receive a brief from the single service Communications Installation Design Authority and receive a brief from them. Failure to do so could result in the delivery of a design which does not meet security regulations and therefore is not fit for purpose. Telecommunications requirements for information systems should be sought from the information system sponsor. Installation advice may be obtained from DCSA.

TV and FM Radio Reception Systems

88 A terrestrial TV/FM reception system and the enabling works for both terrestrial and satellite systems may be provided as a works service to buildings where antenna socket outlets are provided under the relevant scale. However, the provision of satellite antennae and decoders are not a works service. The conditions for private installation are governed by MOD and Service regulations.

89 Further guidance, including any need for planning consent, may be obtained from DE, personnel staffs, and from DE Ops Housing for the Service Family Housing Estate.

Audio Visual Aids and Training Aids

90 The scales make provision for the enabling works to install audio visual and training aids. Separate authority for the provision, maintenance and funding of the equipment will be required.

Standby/Emergency Power Supplies

91 Other than for emergency escape lighting and signs, the scales make no provision for standby or emergency power supplies. Such supplies will only be provided where it is vital for operational and security reasons that selected

PART 4 - GENERAL FACILITIES (contd)

functions of a unit continue to operate during failures of the public supply.

Incinerators for Classified Material

92 A purpose built incinerator may be provided for the destruction of classified paper, tapes and IT discs where no other method of authorised disposal exists.

Flagpoles and Flagstaffs

93 Flagpoles and flagstaffs may be provided to hoist or fly the ensigns, flags, pennants and standards authorised by Queen's Regulations or by the customs and traditions of the Services.

Clocks

94 One external illuminated clock placed in a conspicuous position may be provided at a unit. The dial should be not more than 300mm diameter for every 3m above ground level.

95 Within buildings, the provision of clocks should be limited to rooms where accurate timekeeping is essential

and to areas used by large numbers of people (e.g. social clubs, messes, classrooms).

Cleaners' Rooms

96 Unless otherwise specified in a scale, a cleaners' room may be provided for any building in accordance with Annex B. In determining the need, consideration should be given to the availability of facilities in adjacent buildings. As a guide, one per floor should be provided.

Calorifier Rooms

97 A Calorifier room may be provided as necessary in accordance with Annex B.

Welfare Facilities

98 Welfare organisations that are publicly funded are provided with accommodation at public expense. The size of the facility is to be determined in each individual case. This does not preclude other welfare organisations from occupying accommodation which may be made available under local arrangements.

99-100 Spare

PART 5 TROPICAL AND SUB-TROPICAL PROVISION

Air Conditioning

101 Subject to works approval procedures, air conditioning in tropical areas may be provided in:

All mess public rooms, food preparation rooms, serveries, larders, messing stores and staff rooms.

Single living sleeping accommodation.

Medical and dental centres.

Offices.

Conference, class and instructional rooms and libraries.

Stores and workshops where climatic control is required.

NAAFI shopping halls.

102 Provision in families' quarters may be made provided it will be cost-effective for the occupants.

103 Air conditioning is to conform to CIBSE Standards and to technical instructions issued by D E.

Fans

104 When air conditioning is not provided, ceiling fans may be provided in lieu in the accommodation at Serial 101 above.

105 Fans may also be provided in the following accommodation:

Churches and Church Halls.

Main Hall in P&RTCs.

Storerooms where personnel work full time.

Sitting areas of verandahs of messes and families quarters.

106 Fans may be provided in families' quarters bedrooms whether or not there is air conditioning.

107 The scale of provision of ceiling fans is as follows;

Area	Details
under 7.5m ²	See JSP 308 (Scale JS/155)
7.5 to 18m ²	One 36 inch ceiling fan (915mm approx.)
18 to 28m ²	One 48 inch ceiling fan (1220mm approx.)
28 to 38m ²	One 56 inch ceiling fan (1420mm approx.)
38m ² and over	The most economical number to cover the area

Where ceiling fans are provided, the ceiling height may be increased by the mounting height of the fan.

PART 5 TROPICAL AND SUB-TROPICAL PROVISION (contd)

Area Increments

108 Where air conditioning is not provided in the facilities listed in Serial 101, the scaled areas may be increased by:

33.3% in tropical areas

12.5% in sub-tropical areas

Similarly, these increments may be applied to those areas cited in the other scales unless an alternative increment is specified in them.

Water Coolers

109 A 55 litre capacity water cooler or 300cc of refrigerator space may be provided as follows:-

- a Services
 - 1 per 60 personnel (tropics)
 - 1 per 150 personnel (sub-tropics)
- b Children's Schools
 - 1 per 55 children (tropics)
 - 1 per 80 children (sub-tropics).

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AREA ADDITIONS

SCALE	AREA ADDITION
2	35%
3X	65%
3Y	65%
3Z	50%
4 Custody Facilities	75%
5 Training Camps	
Sleeping Quarters	75%
Kitchens	50%
Kitchen Staff	40%
Dining Rooms	30%
Medical Accommodation	65%
Training Accn	35%
Offices	45%
Stores	10%
Social Clubs	20%
7 Churches, Church Halls	40%
11	45%
+ for verandah	5%
12 Serial 21	10%
Serials 22-38	40%
15 Generally	40%
Lecture Rooms	50%
18 Guard Room	40%
23 Stores (with internal access)	15%
(without)	10%
Offices	35%

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SCALE	AREA ADDITION
Toilets	15%
25	45%
27 Serial 21a	10%
Serial 21c	5%
Serial 22c	10%
Serial 23a - c	10%
Serial 25	10%
Serial 26	15%
Serial 27 generally	10%
Serial 27f	Nil
Serials 28, 29, 30	35%
Serial 31	15%
28	50%
29	60%
30	50%
32	65%
34	60%
35	50%
39 Kitchens and serveries 1-200	70%
201-2200	55%
Part 3 Dining (JRs)	30%
Part 5	40%
Part 6	50%
40 Changing area	25%
Toilet area	15%
41 Serials 21 & 22	10%

ANNEX A

SCALE	AREA ADDITION
Serials 23,24 &25	15%
Serials 26 - 29 and 32	35%
Serials 30 & 31	Nil
45 Area <1000m ²	50%
Area >1000m ² (open plan)	35%
Area >1000m ² (cellular)	45%
48 Part 2 Serials 33-38	5%
All other Serials	100%
Part 3 Serials 52-54	5%
Serial 67	5%
All other Serials	100%
Part 4	100%
Part 5 Serials 101-104	10%
Serials 105-107	5%
51 Part 1	40%
52 Kitchens etc refer to Scale 39	
All other serials	30%
53 & 54 Refer to Scale 23	
57 Serials 21-22	vehicles 60%
aircraft	85%
Serials 23-24	35%
Serials 25-27	80%
Serial 28	15%
58 As for rest of building	
61 Armouries	40%
62 Unit Ammo Stores	5%

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TOILET AREAS AND OTHER COMMON ANCILLARY AREAS

ANNEX B

(a)	(b)	(c)	(d)
1 Male	WCs Urinals WHBs	Illumination - 125 lux Supplementary lighting over mirrors. Heating - 16.0°C. Water Supply - Hot, cold and drinking (labelled).	These provisions are in accordance with the statutory workplace requirements. Accommodation may be split between Officers and Other Ranks if required. Washbasin with splashback, mirror, shelf, towel fitting and clothes hook. Toilet roll holder and clothes hook in each WC. Drinking water point in each toilet area. Sanitary disposal unit in each female toilet area; type to be decided at project brief stage. Hand Drying: Paper Towel Dispensers should not normally be provided in toilets because of the problems of used paper towel disposal. They are suitable for installation in food handling areas, such as those of Scale 39, and in Scale 28 examination rooms, & wards.
Up to 5	1 1 1		
6 - 15	1 1 2		
16 - 25	2 1 2		
26 - 30	2 1 3		
31 - 45	2 2 3		
46 - 50	3 2 3		
51 - 75	3 3 4		
76 - 90	4 3 5		
91 - 100	4 4 5		
Above 100	1 WC, 1 Urinal and 1WHB for every additional 25 persons.		
Female Up to 5	1 1		
6 - 25	2 2		
26 - 50	3 3		
51 - 75	4 4		
76 - 100	5 5		
Above 100	1 WC and 1 WHB for every additional 25 persons. Where these facilities are not covered by area addition allowances, the following areas will apply:		

TOILET AREAS AND OTHER COMMON ANCILLARY AREAS (contd)

ANNEX B (contd)

(a)	(b)	(c)	(d)
1 contd	Basic Unit m ² 1 WC, 1 Washbasin 4.0 Lobby if required 1.0 Each additional WC Cubicle 2.0 Each Urinal 2.0 Each additional Washbasin 2.0 Disabled WC & Washbasin 5.0		Hot Air Hand Dryers are recommended for installation in Scale 19 and 27, but because of the amount of current they consume, the effect on energy targets should be borne in mind when considering their installation in other locations. Elsewhere, captive Towel Cabinets are suitable.
2 Cleaners' Room	4.0m ²	Illumination - 100 lux. Electric Power - One 13A double socket outlet. Heating - Frost precautions. Ventilation - Room must have some form of ventilation. Water Supply - Hot and cold.	See Serial 96. Bucket sink with draining board. Store cupboard with lock and shelving.
3 Calorifier Room	To be provided from area addition	Illumination - 100 lux. Electric Power - One 13A double socket outlet and one extra low voltage socket outlet for hand lamp.	With external access
