

ARM4 SUPPLEMENT 2

Agreed Alternative Rules for the
Measurement of Services Installations
ISSUE 1 2013



ARM 4, 2013, Supplement 2

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Agreed Rules of Measurement 4, Supplement 2

The Agreed Rules of Measurement 4, Supplement 2, has been prepared by a joint committee established by the Construction Industry Federation and the Society of Chartered Surveyors Ireland, as follows

Representing the Construction Industry Federation:
Jim Duggan, Ian Hagan.

Representing the Society of Chartered Surveyors Ireland:
Gerard O'Sullivan, Alan Hardy, Michael Mulryan.

Observer representing the Department of Public Expenditure and Reform:
Neil Murphy.

The Joint Committee will continue in existence to review the operation of ARM 4, Supplement 2 and to consider any observations made by users within the industry.

Michael Mulryan
Chairman

ARM 4; 2013

Secretariat
Ciara Murphy, Director General, Society of Chartered Surveyors Ireland.
Don O'Sullivan, Director—Main Contracting, Construction Industry Federation.

ARM4, Supplement 2

Supplement 2 is published for use in conjunction with ARM4. This Supplement provides an alternative set of Rules for use in the measurement of Mechanical and Electrical Installations where the Design Team, with the agreement of the Employer, have decided that the measurement of Mechanical and Electrical Installations in accordance with ARM4 is not warranted.

When using Supplement 2, a note should be given at the start of the Mechanical and Electrical Installation Sections of the Bill of Quantities making the tenderer aware that Supplement 2 is being used.

Supplement 2 replaces pages 94 to 108 of ARM4 with the exception of Category 1, items 2 to 9 on page 104 in the Mechanical Installation Section and pages 106 to 115 with the exception of Categories 1, items 2 to 5 on page 114 in the Electrical Installation Section. **Work covered by the exceptions shall be measured in accordance with ARM4.**

Alternative rules for the Measurement of Mechanical Installation

INFORMATION REQUIRED

- ▶ Minimum information which must be shown on the drawings that accompany this section – scope and location of work
- ▶ Information which must accompany this section – relevant drawings and specifications
- ▶ Mandatory information to be provided – detailed description of the system giving specified output requirements

CATEGORIES	1	2	3	4	Unit
1 System	1 Site services installation 2 Gas or oil installation 3 Heating installations 4 Cooling installation 5 Water installation 6 Ventilation installation 7 Drainage installation 8 Process installation 9 BMS System installation 10 Other installations - function stated				
2 Primary Equipment	11 Details stated and reference to Specification given.	1 Location stated	1 Method of installing/fixing where not left to the discretion of the Contractor	nr	
3 Accessories associated with primary equipment	12 Controls 13 Valves 14 Pumps 15 Other items - function stated	2 Details stated and reference to Specification given			
4 Terminal equipment and fittings	16 Radiators 17 Taps 18 Grilles 19 Other items - function stated		2 Finish 3 Nature of background and method of fixing		
5 Accessories associated with terminal equipment and fittings	20 Valves 21 Thermostats 22 Controls 23 Other items - function stated				
6 Distribution system	24 Pipework 25 Ductwork				item
7 Insulation					
8 General	26 Testing and commissioning 27 Operating and maintenance manuals 28 Working drawings 29 Co-ordination drawings 30 As built drawings				
	31 Identification plates, labels and the like				
	32 Builders work				
	33 Fire stopping and other associated fire protection work				

MEASUREMENT RULES	MEASUREMENT SCOPE	DEEMED TO BE INCLUDED
<p>1 A description of the installation to be given such as heating installation, cold water installation, ventilation system</p> <p>2 All work is deemed to be internal unless otherwise stated.</p> <p>3 Structures required to support equipment shall be measured in accordance with ARM4.</p>		<p>1 All joints including fittings in running length of pipes and ducts.</p> <p>2 All brackets, supports, couplers, etc</p> <p>3 Marking out of all holes, chases, mortices and the like.</p>
	<p>1 Primary Equipment is defined as plant or equipment from which a system originates e.g. boiler, main storage tank, air handling unit, fan, etc</p>	<p>4 All plates, discs, labels, tapes, symbols or numbers, bands, charts or diagrams, etc</p>
<p>4 Restrictions on the way in which work can done shall be stated.</p>		<p>5 Forming or cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels, etc and making good.</p>

Alternative rules for the Measurement of Electrical Services

INFORMATION REQUIRED

- ▶ Minimum information which must be shown on the drawings that accompany this section – scope and location of work
- ▶ Information which must accompany this section – relevant drawings and specifications
- ▶ Mandatory information to be provided – detailed description of the system giving specified output requirements

CATEGORIES	1	2	3	4	Unit
1 System	1 HV/MV installation 2 LV installations 3 Cable ladder/tray/trunking installations 4 Lighting and emergency lighting installations 5 General services and small power installations 6 Fire alarm installation 7 DATA/I.T. installations 8 Mechanical & BMS wiring installations 9 Earthing & bonding installation 10 Lightning protection installation 11 Transport Installation 12 Other installations - function stated	1 Details stated and reference to Specification given			item
2 Equipment	13 Details stated and reference to Specification given	2 Location stated	1 Method for installing/fixing where not left to the discretion of the Contractor		nr
3 Fittings	14 Details stated reference to Specification given 15 Output	3 Finish			
4 Accessories associated with terminal equipment.	16 Details stated and reference to Specification given				
5 Mains and sub-mains cables	17 Drawing reference	4 Mains 5 Sub mains			item
6 Final circuits (including points terminations)		6 Details stated			nr
7 General earthing and bonding					item
8 General	18 Testing and commissioning 19 Operating and maintenance manuals 20 Working drawings 21 Co-ordination drawings 22 As built drawings 23 Identification plates, labels and the like	7 Details stated and reference to Specification given			item
	24 Builders work				
	25 Fire stopping and other associated fire protection work				

MEASUREMENT RULES	MEASUREMENT SCOPE	DEEMED TO BE INCLUDED
<p>1 A description of installation to be given such as main switchboard, power circuit, lighting circuit, alarm installation</p> <p>2 All work is deemed to be internal unless otherwise stated.</p> <p>3 Structures required to support equipment shall be measured in accordance with ARM4.</p>		<p>1 All joints (including fittings required in running lengths of rack/tray and trunking).</p> <p>2 All brackets and supports</p> <p>3 Marking out of all holes, chases, mortices and the like.</p>
	<p>1 Equipment is as ARM4 Page 108 Categories 2 Items 1-9.</p>	<p>4 Bus bars, switchgear, etc</p>
	<p>2 Fittings are as ARM4 Page 108 Categories 2 Items 10-24</p>	
	<p>3 Light fittings, switches, sockets outlets, immersion heaters, heaters, sensors, sounders</p>	
		<p>5 Terminations</p>
	<p>4 Points are as ARM4 Page 112 Categories 3 Items 1-8</p>	<p>6 Conduit, cables, terminations, etc</p>
<p>4 Restrictions on the way in which work can done shall be stated.</p>		<p>7 All plates, discs, labels, tapes, symbols or numbers, bands, charts or diagrams, etc</p> <p>8 Forming or cutting holes, mortices, chases or the like, providing grounds, lifting, re-fixing and replacing as required existing chequer plates, floor boards or raised access floor panels, etc, and making good.</p>

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