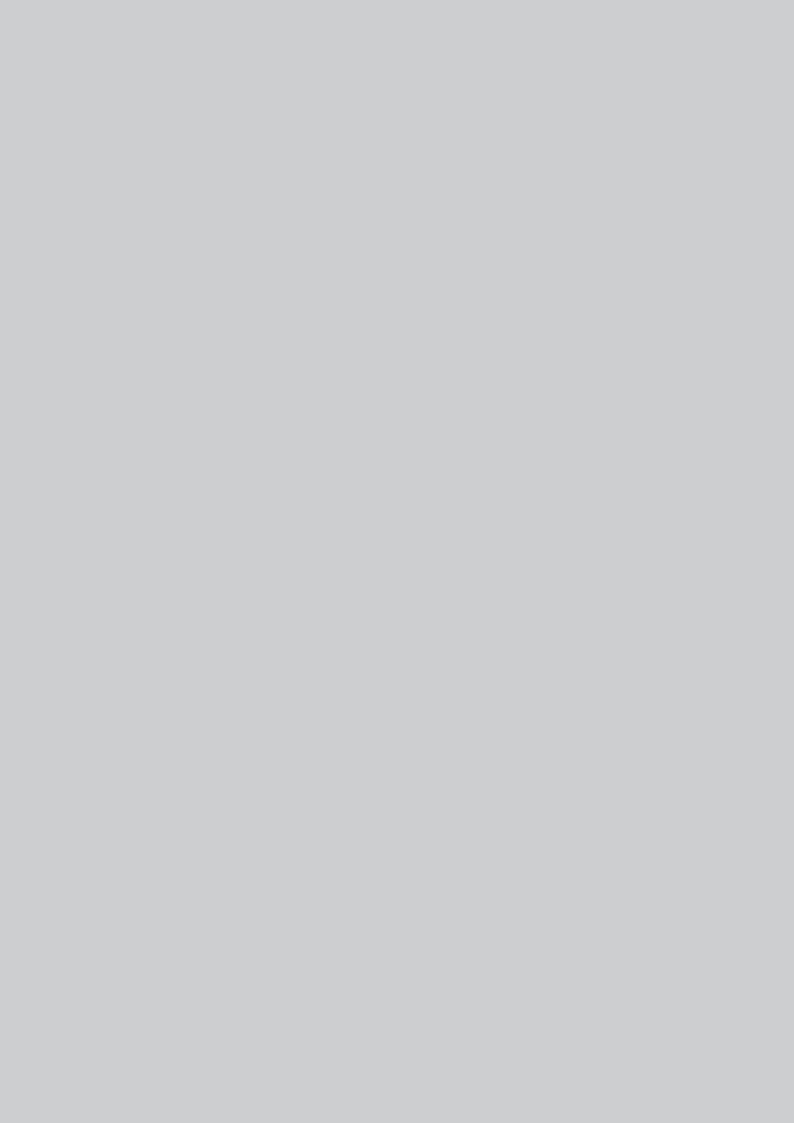
# ARM4supplement2

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

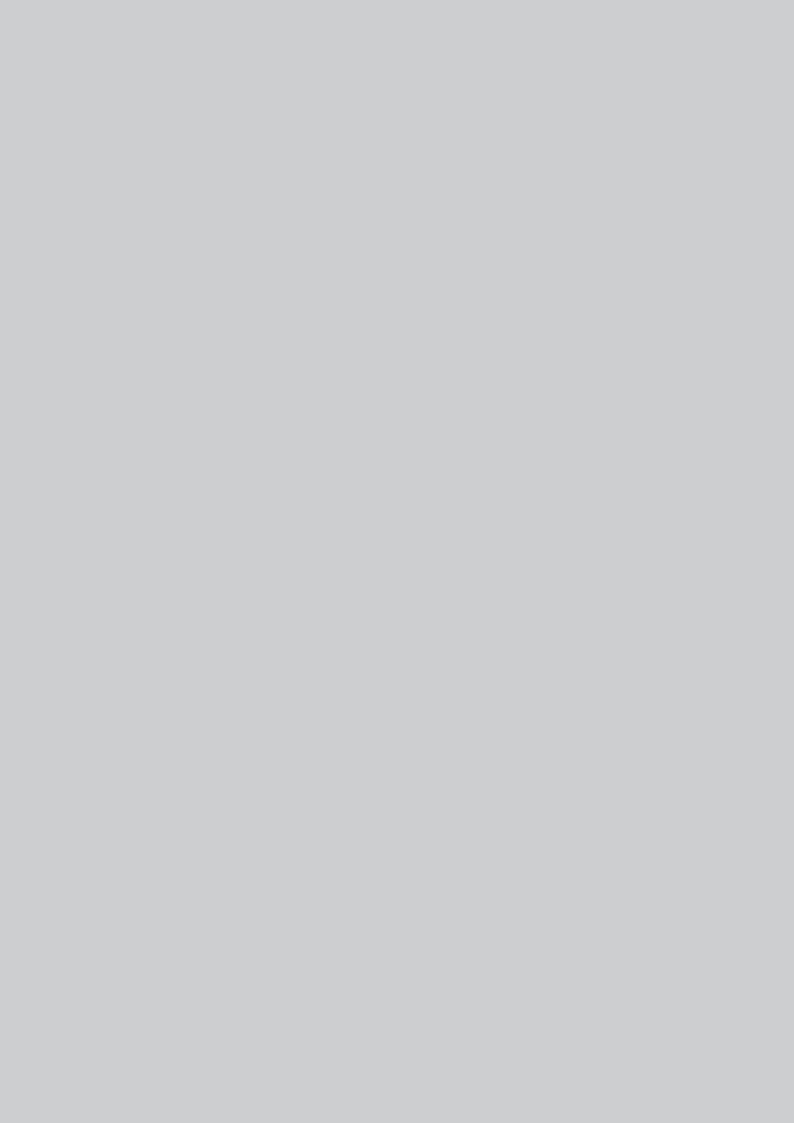
ARM 4; 2013

Secretariat

Ciara Murphy, Director General, Society of Chartered Surveyors Ireland.

Don O'Sullivan, Director–Main Contracting, Construction Industry Federation.

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### 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

CATE	EGORIES 1	2	3	4	Unit
1 Sys	stem	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 Prir	mary Equipment	11 Details stated and reference to Specification given.	1 Location stated	Method of installing/fixing     where not left to the discretion     of the Contractor	nr
	cessories associated with mary equipment	12 Controls 13 Valves 14 Pumps 15 Other items - function stated	Details stated and reference to Specification given		
4 Ten	rminal equipment and fittings	<ul><li>16 Radiators</li><li>17 Taps</li><li>18 Grilles</li><li>19 Other items - function stated</li></ul>		Finish     Nature of background and method of fixing	
	essories associated with minal equipment and fittings	20 Valves 21 Thermostats 22 Controls 23 Other items - function stated			
6 Dis	stribution system	24 Pipework 25 Ductwork			item
7 Insi	sulation				
8 Ger	neral	<ul> <li>26 Testing and commissioning</li> <li>27 Operating and maintenance manuals</li> <li>28 Working drawings</li> <li>29 Co-ordination drawings</li> <li>30 As built drawings</li> </ul>			
		31 Identification plates, labels and the like			
		32 Builders work			
		33 Fire stopping and other associated fire protection work			

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MEASUREMENT RULES	MEASUREMENT SCOPE	DEEMED TO BE INCLUDED
A description of the installation to be given such as heating installation, cold water installation, ventilation system     All work is deemed to be internal unless otherwise stated.     Structures required to support equipment shall be measured in accordance with ARM4.		All joints including fittings in running length of pipes and ducts.     All brackets, supports, couplers, etc     Marking out of all holes, chases, mortices and the like.
	Primary Equipment is defined as plant or equipment from which a system orginates e.g. boiler, main storage tank, air handling unit, fan, etc	
		All plates, discs, labels, tapes, symbols or numbers, bands, charts or diagrams, etc
4 Restrictions on the way in which work can done shall be stated.		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.
	Alternative rules for the Measu	

#### Alternative rules for the Measurement of Electrical Services

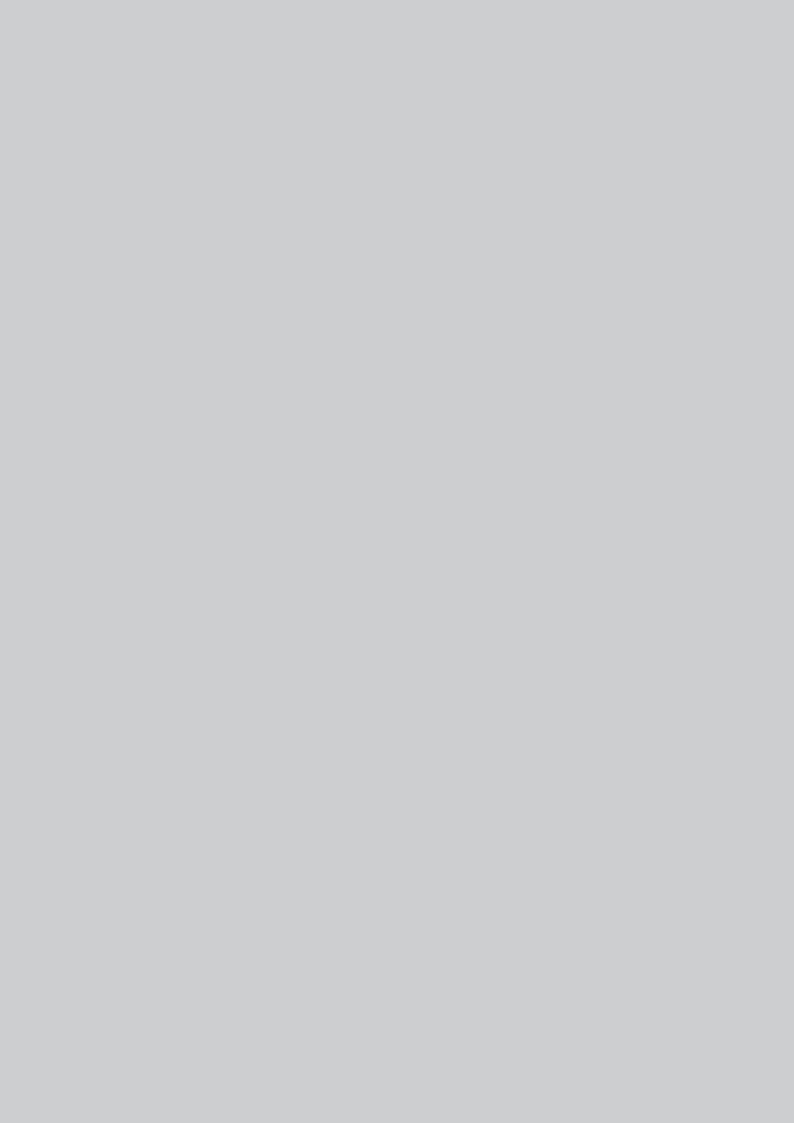
#### INFORMATION REQUIRED

- ▶ 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

С	ATEGORIES 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	V	Nethod for installing/fixing where not left to the discretion of the Contractor	nr
3	Fittings	Details stated reference to Specification given     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 5	Mains Sub mains			item
6	Final circuits (including points terminations)		6	Details stated			nr
7	General earthing and bonding						item
8	General	<ul> <li>18 Testing and commissioning</li> <li>19 Operating and maintenance manuals</li> <li>20 Working drawings</li> <li>21 Co-ordination drawings</li> <li>22 As built drawings</li> </ul>	7	Details stated and reference to Specification given			
		23 Identification plates, labels and the like					
		24 Builders work					
		25 Fire stopping and other associated fire protection work					

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



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