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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Refractory bricks — Dimensions —

Part 4:
Dome bricks for electric arc furnace roofs

Briques réfractaires — Dimensions —

Partie 4: Briques de voûte pour fours électriques

Reference number
ISO 5019-4 : 1988 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5019-4 was prepared by Technical Committee ISO/TC 33, *Refractories.*

This second edition cancels and replaces the first edition (ISO 5019-4 : 1984), of which it constitutes a technical revision.

ISO 5019 consists of the following parts, under the general title *Refractory bricks — Dimensions:*

Part 1: Rectangular bricks

Part 2: Arch bricks

Part 3: Rectangular checker bricks for regenerative furnaces

Part 4: Dome bricks for electric arc furnace roofs

Part 5: Skewbacks

Part 6: Basic bricks for oxygen steel-making converters

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Refractory bricks — Dimensions —

Part 4 :
Dome bricks for electric arc furnace roofs

1 Scope and field of application

This part of ISO 5019 specifies the dimensions of refractory bricks for use in the domes of electric arc furnace roofs.

In the annex, the dimensions of special bricks also used for the construction of these furnaces are given for information only.

2 Dimensions

The dimensions of refractory bricks for use in the domes of electric arc furnace roofs shall be as shown in tables 1 to 3.

NOTE — Normally either bricks exclusively from table 1 or combinations from tables 2 and 3 are used.

3 Brick designations

3.1 General

The bricks of the specified dimensions shall be designated by the reference numbers shown in tables 1 to 3.

3.2 Designations for table 1

a) The first letter (H, J or K) indicates the brick length (roof thickness) (230 mm; 250 mm or 300 mm);

b) The second letter (W, X, Y or Z) indicates the spherical radius (2,7 m; 4,5 m; 6,3 m or 8,1 m);

c) The digit in the third place (1, 2, 3 or 4) indicates the side arch taper (2 mm; 3 mm; 6 mm or 13 mm).

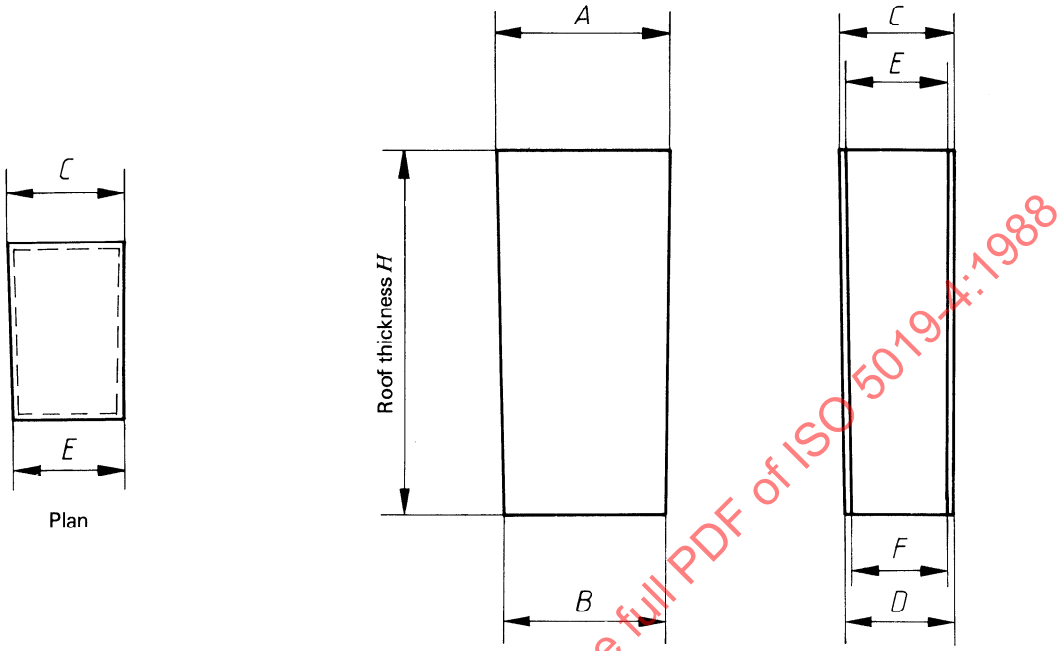
3.3 Designations for tables 2 and 3

a) Spherical dome bricks (table 2) are designated by the letters "KR" and rectangular dome bricks (table 3) by the letter "R".

b) The first digit of the designation number shows the first digit of the spherical radius, in millimetres.

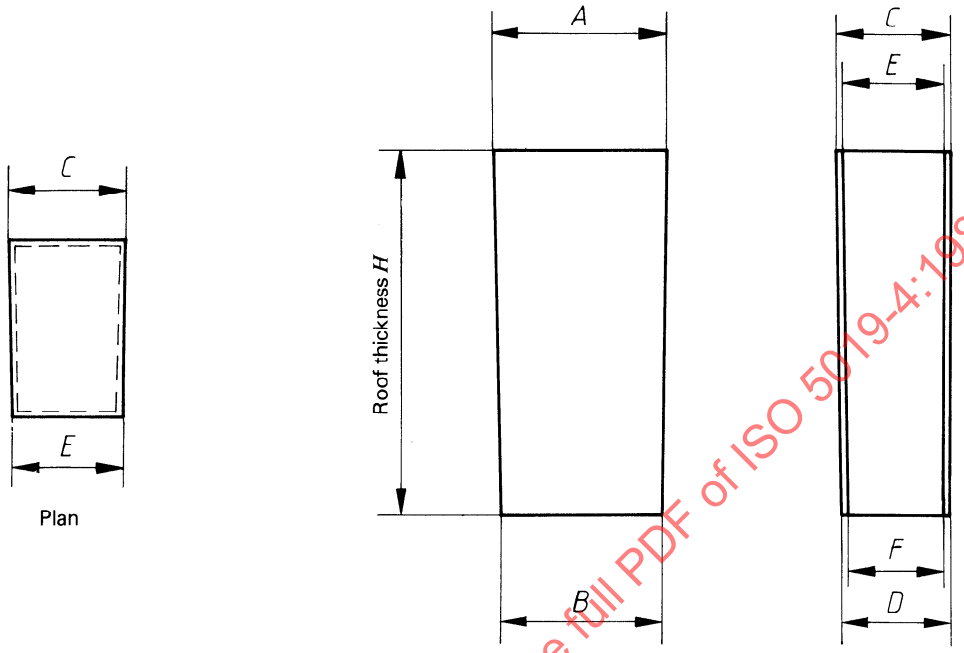
c) The second digit of the designation number shows the roof thickness, the relationship between this dimension and the digit being as shown in table 4.

Table 1 — Dimensions of dome bricks for electric arc furnace roofs



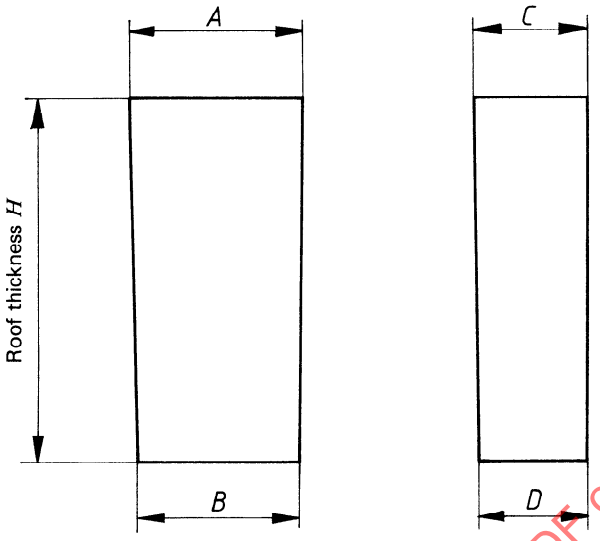
Roof thickness H mm	Nominal spherical radius m	Brick dimensions mm						Reference No.
		A	B	C	D	E	F	
230	4,5	114	108,5	76	72,5	73	69,5	HX2
		114	108,5	76	72,5	70	67	HX3
		114	108,5	76	72,5	63	60	HX4
	2,7	114	105	76	70	73	67	HW2
		114	105	76	70	70	64,5	HW3
		114	105	76	70	63	58	HW4
250	8,1	114	110,5	76	73,5	74	71,5	JZ1
		114	110,5	76	73,5	73	70,5	JZ2
		114	110,5	76	73,5	70	67,5	JZ3
		114	110,5	76	73,5	63	61	JZ4
	6,3	114	109,5	76	73	74	71	JY1
		114	109,5	76	73	73	70	JY2
		114	109,5	76	73	70	67	JY3
		114	109,5	76	73	63	60,5	JY4
300	8,1	114	110	76	73,5	74	71,5	KZ1
		114	110	76	73,5	73	70,5	KZ2
		114	110	76	73,5	70	67,5	KZ3
		114	110	76	73,5	63	61	KZ4
	6,3	114	109	76	72,5	74	70,5	KY1
		114	109	76	72,5	73	69,5	KY2
		114	109	76	72,5	70	67	KY3
		114	109	76	72,5	63	60	KY4

Table 2 — Dimensions of spherical dome bricks for electric arc furnace roofs



Roof thickness H mm	Nominal spherical radius m	Brick dimensions mm						Reference No.
		A	B	C	D	E	F	
200	2,0	132	120	93	85	71	65	KR20
	3,0	128	120	89	83,5	71,5	67	KR30
250	3,0	130	120	90,5	83,5	72,5	67	KR32
	4,0	128	120	87	82	72	68	KR42
	5,0	126	120	86	82	72	68	KR52
	6,0	125	120	85,5	82	71	68	KR62
	7,0	124,5	120	85	82	71	68	KR72
300	4,0	129	120	88	82	73	68	KR43
	5,0	127	120	87	82	72	68	KR53
	6,0	126	120	86	82	71,5	68	KR63
	7,0	125	120	85,5	82	71	68	KR73
	9,0	124	120	85	82	70,5	68	KR93

Table 3 — Dimensions of rectangular dome bricks for electric arc furnace roofs



Roof thickness H mm	Nominal spherical radius m	Brick dimensions mm				Reference No
		A	B	C	D	
200	2,0	132	120	82,5	75	R20
	3,0	128	120	80	75	R30
250	3,0	130	120	81	75	R32
	4,0	128	120	80	75	R42
	5,0	126	120	79	75	R52
	6,0	125	120	78,5	75	R62
	7,0	124,5	120	78	75	R72
300	4,0	129	120	81	75	R43
	5,0	127	120	80	75	R53
	6,0	126	120	79	75	R63
	7,0	125	120	78	75	R73
	9,0	124	120	77,5	75	R93

Table 4 — Combination of roof thickness and spherical radius

Roof thickness mm	Designation	Possible spherical radii mm						
200	0	2 000	3 000					
250	2		3 000	4 000	5 000	6 000	7 000	
300	3			4 000	5 000	6 000	7 000	9 000