

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **300 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	11	16	25	35	54	-
70	10	12	16	26	36	55	-
80	10	13	18	28	38	57	-
90	10	14	19	29	39	59	-
100	10	15	20	30	40	60	-
110	11	16	21	31	41	61	-
120	12	17	22	32	42	62	-
130	12	17	22	32	42	62	-
140	13	18	23	33	43	63	-
150	13	18	23	33	43	63	-
160	14	19	24	34	44	64	-
170	14	19	24	34	44	64	-
180	14	19	24	34	45	65	-
190	15	20	25	35	45	65	-
200	15	20	25	35	45	65	-
210	15	20	25	35	45	66	-
220	15	20	25	35	46	66	-
230	15	20	26	36	46	66	-
240	16	21	26	36	46	66	-
250	16	21	26	36	46	67	-
260	16	21	26	36	46	67	-
270	16	21	26	36	47	67	-
280	16	21	26	36	47	67	-
290	16	21	26	37	47	67	-
300	16	21	27	37	47	67	-
310	16	22	27	37	47	67	-
320	16	22	27	37	47	68	-
330	17	22	27	37	47	68	-
340	17	22	27	37	47	68	-
350	17	22	27	37	47	68	-
360	17	22	27	37	48	68	-
370	17	22	27	37	48	68	-
380	17	22	27	37	48	68	-
390	17	22	27	37	48	68	-
400	17	22	27	38	48	68	-
410	17	22	27	38	48	68	-
420	17	22	27	38	48	68	-
430	17	22	27	38	48	68	-
440	17	22	28	38	48	69	-
495	18	23	28	38	48	69	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **300 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	12	17	27	37	58	-
70	10	12	18	28	38	59	-
80	10	14	19	30	41	62	-
90	10	16	21	32	42	64	-
100	11	17	22	33	44	66	-
110	12	18	23	34	45	67	-
120	13	19	24	36	47	69	-
130	14	20	25	37	48	-	-
140	15	20	26	38	49	-	-
150	15	21	27	38	50	-	-
160	16	22	28	39	51	-	-
170	16	22	28	40	52	-	-
180	17	23	29	41	53	-	-
190	17	23	29	41	53	-	-
200	18	24	30	42	54	-	-
210	18	24	30	43	55	-	-
220	19	25	31	43	56	-	-
230	19	25	31	44	56	-	-
240	19	26	32	44	57	-	-
250	20	26	32	45	58	-	-
260	20	26	33	45	58	-	-
270	20	26	33	45	58	-	-
280	20	26	33	46	58	-	-
290	20	27	33	46	58	-	-
300	20	27	33	46	59	-	-
310	20	27	33	46	59	-	-
320	21	27	33	46	59	-	-
330	21	27	33	46	59	-	-
340	21	27	34	46	59	-	-
350	21	27	34	46	59	-	-
360	21	27	34	47	59	-	-
370	21	27	34	47	59	-	-
380	21	28	34	47	60	-	-
390	21	28	34	47	60	-	-
400	21	28	34	47	60	-	-
410	21	28	34	47	60	-	-
420	21	28	34	47	60	-	-
430	22	28	34	47	60	-	-
440	22	28	34	47	60	-	-
495	22	28	35	48	60	-	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **350 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	13	21	30	47	65
70	10	10	13	22	31	48	66
80	10	11	15	24	33	50	68
90	10	12	16	25	34	52	-
100	10	13	17	26	36	54	-
110	10	14	18	27	37	55	-
120	10	14	19	28	37	56	-
130	10	15	20	29	38	57	-
140	11	16	20	30	39	58	-
150	11	16	21	30	40	58	-
160	12	16	21	31	40	59	-
170	12	17	22	31	41	59	-
180	12	17	22	31	41	60	-
190	13	17	22	32	41	60	-
200	13	18	23	32	42	61	-
210	13	18	23	32	42	61	-
220	13	18	23	33	42	61	-
230	14	18	23	33	42	62	-
240	14	19	23	33	43	62	-
250	14	19	24	33	43	62	-
260	14	19	24	33	43	62	-
270	14	19	24	34	43	63	-
280	14	19	24	34	44	63	-
290	15	19	24	34	44	63	-
300	15	20	24	34	44	63	-
310	15	20	25	34	44	63	-
320	15	20	25	34	44	64	-
330	15	20	25	34	44	64	-
340	15	20	25	35	44	64	-
350	15	20	25	35	44	64	-
360	15	20	25	35	45	64	-
370	15	20	25	35	45	64	-
380	15	20	25	35	45	64	-
390	15	20	25	35	45	64	-
400	16	20	25	35	45	65	-
410	16	20	25	35	45	65	-
420	16	21	25	35	45	65	-
430	16	21	26	35	45	65	-
440	16	21	26	35	45	65	-
495	16	21	26	36	46	65	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **350 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	13	23	32	50	69
70	10	10	14	24	33	52	-
80	10	11	16	26	35	54	-
90	10	13	18	28	37	57	-
100	10	14	19	29	39	59	-
110	11	15	20	30	41	61	-
120	11	16	21	32	42	63	-
130	12	17	22	33	43	64	-
140	12	18	23	34	44	66	-
150	13	18	24	35	45	67	-
160	14	19	25	36	46	68	-
170	14	20	25	36	47	-	-
180	15	20	26	37	48	-	-
190	15	21	26	38	49	-	-
200	16	21	27	39	50	-	-
210	16	22	28	39	51	-	-
220	16	22	28	40	52	-	-
230	17	23	29	40	52	-	-
240	17	23	29	41	53	-	-
250	17	24	30	42	54	-	-
260	18	24	30	42	54	-	-
270	18	24	30	42	54	-	-
280	18	24	30	42	54	-	-
290	18	24	30	42	55	-	-
300	18	24	30	43	55	-	-
310	18	25	31	43	55	-	-
320	19	25	31	43	55	-	-
330	19	25	31	43	55	-	-
340	19	25	31	43	55	-	-
350	19	25	31	43	56	-	-
360	19	25	31	43	56	-	-
370	19	25	31	44	56	-	-
380	19	25	31	44	56	-	-
390	19	25	32	44	56	-	-
400	19	26	32	44	56	-	-
410	19	26	32	44	56	-	-
420	20	26	32	44	56	-	-
430	20	26	32	44	56	-	-
440	20	26	32	44	57	-	-
495	20	26	32	45	57	-	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **400 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	18	26	41	57
70	10	10	11	19	27	42	58
80	10	10	12	21	29	45	61
90	10	10	14	22	30	47	63
100	10	11	15	23	32	48	65
110	10	12	16	24	33	50	67
120	10	12	17	25	34	51	68
130	10	13	17	26	35	52	-
140	10	14	18	27	35	53	-
150	10	14	18	27	36	54	-
160	10	15	19	28	37	54	-
170	10	15	19	28	37	55	-
180	11	15	20	29	38	56	-
190	11	16	20	29	38	56	-
200	11	16	20	29	39	57	-
210	12	16	21	30	39	57	-
220	12	16	21	30	39	57	-
230	12	17	21	30	39	58	-
240	12	17	21	31	40	58	-
250	12	17	22	31	40	58	-
260	13	17	22	31	40	59	-
270	13	17	22	31	40	59	-
280	13	18	22	31	41	59	-
290	13	18	22	32	41	59	-
300	13	18	22	32	41	60	-
310	13	18	23	32	41	60	-
320	13	18	23	32	41	60	-
330	14	18	23	32	41	60	-
340	14	18	23	32	42	60	-
350	14	18	23	32	42	60	-
360	14	18	23	33	42	61	-
370	14	19	23	33	42	61	-
380	14	19	23	33	42	61	-
390	14	19	23	33	42	61	-
400	14	19	24	33	42	61	-
410	14	19	24	33	42	61	-
420	14	19	24	33	43	61	-
430	14	19	24	33	43	61	-
440	14	19	24	33	43	62	-
495	15	19	24	34	43	62	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **400 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	11	19	27	44	61
70	10	10	11	20	28	45	62
80	10	10	13	22	31	48	66
90	10	11	15	24	33	51	69
100	10	12	16	26	35	53	-
110	11	13	18	27	36	55	-
120	11	14	19	28	38	57	-
130	11	15	20	29	39	59	-
140	11	15	20	30	40	60	-
150	11	16	21	31	42	62	-
160	12	17	22	32	43	63	-
170	12	17	23	33	44	64	-
180	13	18	23	34	44	66	-
190	13	19	24	35	45	67	-
200	14	19	25	35	46	68	-
210	14	20	25	36	47	69	-
220	14	20	26	37	48	-	-
230	15	20	26	37	49	-	-
240	15	21	27	38	49	-	-
250	16	21	27	39	50	-	-
260	16	22	27	39	50	-	-
270	16	22	28	39	51	-	-
280	16	22	28	39	51	-	-
290	16	22	28	39	51	-	-
300	16	22	28	40	51	-	-
310	17	22	28	40	51	-	-
320	17	23	28	40	52	-	-
330	17	23	29	40	52	-	-
340	17	23	29	40	52	-	-
350	17	23	29	41	52	-	-
360	17	23	29	41	52	-	-
370	17	23	29	41	53	-	-
380	17	23	29	41	53	-	-
390	18	23	29	41	53	-	-
400	18	24	29	41	53	-	-
410	18	24	30	41	53	-	-
420	18	24	30	41	53	-	-
430	18	24	30	41	53	-	-
440	18	24	30	42	53	-	-
495	18	24	30	42	54	-	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **450 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	15	22	37	51
70	10	10	10	16	23	38	52
80	10	10	10	18	25	40	55
90	10	10	12	19	27	42	58
100	10	10	13	21	28	44	60
110	10	10	14	22	30	46	61
120	10	11	15	23	31	47	63
130	10	11	15	23	32	48	64
140	10	12	16	24	32	49	65
150	10	12	16	25	33	50	66
160	10	13	17	25	34	51	67
170	10	13	17	26	34	51	68
180	10	14	18	26	35	52	69
190	10	14	18	27	35	52	-
200	10	14	19	27	36	53	-
210	10	15	19	27	36	53	-
220	10	15	19	28	36	54	-
230	11	15	19	28	37	54	-
240	11	15	20	28	37	55	-
250	11	15	20	29	37	55	-
260	11	16	20	29	38	55	-
270	11	16	20	29	38	55	-
280	12	16	20	29	38	56	-
290	12	16	21	29	38	56	-
300	12	16	21	30	38	56	-
310	12	16	21	30	39	56	-
320	12	17	21	30	39	57	-
330	12	17	21	30	39	57	-
340	12	17	21	30	39	57	-
350	12	17	21	30	39	57	-
360	12	17	21	30	39	57	-
370	13	17	22	31	40	58	-
380	13	17	22	31	40	58	-
390	13	17	22	31	40	58	-
400	13	17	22	31	40	58	-
410	13	17	22	31	40	58	-
420	13	17	22	31	40	58	-
430	13	18	22	31	40	58	-
440	13	18	22	31	40	58	-
495	13	18	23	32	41	59	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **450 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	16	24	39	54
70	10	10	10	17	25	40	56
80	10	10	11	19	27	43	60
90	10	10	13	21	29	46	63
100	10	10	14	23	31	48	66
110	11	11	15	24	33	51	68
120	11	12	16	25	34	52	-
130	11	13	17	26	36	54	-
140	11	13	18	28	37	56	-
150	11	14	19	29	38	57	-
160	11	15	20	29	39	59	-
170	11	15	20	30	40	60	-
180	11	16	21	31	41	61	-
190	11	17	22	32	42	62	-
200	12	17	22	33	43	63	-
210	12	18	23	33	44	65	-
220	13	18	23	34	44	66	-
230	13	18	24	35	45	67	-
240	13	19	24	35	46	68	-
250	14	19	25	36	47	69	-
260	14	20	25	36	47	69	-
270	14	20	25	36	47	69	-
280	14	20	25	37	48	-	-
290	15	20	26	37	48	-	-
300	15	20	26	37	48	-	-
310	15	21	26	37	48	-	-
320	15	21	26	37	49	-	-
330	15	21	26	38	49	-	-
340	15	21	27	38	49	-	-
350	15	21	27	38	49	-	-
360	16	21	27	38	49	-	-
370	16	21	27	38	49	-	-
380	16	21	27	38	50	-	-
390	16	22	27	38	50	-	-
400	16	22	27	39	50	-	-
410	16	22	27	39	50	-	-
420	16	22	28	39	50	-	-
430	16	22	28	39	50	-	-
440	16	22	28	39	50	-	-
495	17	22	28	40	51	-	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **500 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	13	19	33	46
70	10	10	10	13	20	34	47
80	10	10	10	15	22	36	50
90	10	10	10	17	24	38	53
100	10	10	11	18	26	40	55
110	10	10	12	19	27	42	57
120	10	10	13	20	28	43	58
130	10	10	13	21	29	44	60
140	10	10	14	22	30	45	61
150	10	11	15	23	30	46	62
160	10	11	15	23	31	47	63
170	10	12	16	24	32	48	64
180	10	12	16	24	32	48	64
190	10	12	16	25	33	49	65
200	10	13	17	25	33	49	66
210	10	13	17	25	34	50	66
220	10	13	17	26	34	50	67
230	10	14	18	26	34	51	67
240	10	14	18	26	35	51	68
250	10	14	18	27	35	52	68
260	10	14	18	27	35	52	69
270	10	14	19	27	35	52	69
280	10	15	19	27	36	53	-
290	10	15	19	27	36	53	-
300	11	15	19	28	36	53	-
310	11	15	19	28	36	53	-
320	11	15	19	28	36	54	-
330	11	15	20	28	37	54	-
340	11	15	20	28	37	54	-
350	11	15	20	28	37	54	-
360	11	16	20	29	37	54	-
370	11	16	20	29	37	55	-
380	11	16	20	29	37	55	-
390	12	16	20	29	38	55	-
400	12	16	20	29	38	55	-
410	12	16	20	29	38	55	-
420	12	16	20	29	38	55	-
430	12	16	21	29	38	55	-
440	12	16	21	29	38	56	-
495	12	17	21	30	39	56	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **500 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	14	21	35	49
70	10	10	10	14	22	36	50
80	10	10	10	17	24	39	54
90	10	10	11	18	26	42	57
100	10	10	12	20	28	44	60
110	11	11	13	21	30	46	63
120	11	11	14	23	31	48	65
130	11	11	15	24	33	50	67
140	11	12	16	25	34	52	69
150	11	12	17	26	35	53	-
160	11	13	18	27	36	54	-
170	11	14	18	28	37	56	-
180	11	14	19	29	38	57	-
190	11	15	20	29	39	58	-
200	11	15	20	30	40	59	-
210	11	16	21	31	41	60	-
220	12	16	21	31	41	62	-
230	12	17	22	32	42	63	-
240	12	17	22	33	43	64	-
250	12	17	23	33	44	65	-
260	12	18	23	33	44	65	-
270	13	18	23	34	44	65	-
280	13	18	23	34	45	66	-
290	13	18	24	34	45	66	-
300	13	19	24	35	45	66	-
310	13	19	24	35	45	67	-
320	14	19	24	35	46	67	-
330	14	19	24	35	46	67	-
340	14	19	25	35	46	68	-
350	14	19	25	35	46	68	-
360	14	19	25	36	46	68	-
370	14	20	25	36	47	68	-
380	14	20	25	36	47	68	-
390	14	20	25	36	47	69	-
400	15	20	25	36	47	69	-
410	15	20	26	36	47	69	-
420	15	20	26	36	47	69	-
430	15	20	26	37	48	69	-
440	15	20	26	37	48	69	-
495	15	21	26	37	48	-	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **550 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	11	17	29	41
70	10	10	10	11	18	30	43
80	10	10	10	13	20	33	46
90	10	10	10	15	22	35	48
100	10	10	10	16	23	37	50
110	10	10	10	17	24	38	52
120	10	10	11	18	25	40	54
130	10	10	12	19	26	41	55
140	10	10	13	20	27	42	57
150	10	10	13	21	28	43	58
160	10	10	14	21	29	44	59
170	10	10	14	22	29	45	60
180	10	11	15	22	30	45	61
190	10	11	15	23	30	46	61
200	10	11	15	23	31	46	62
210	10	12	16	23	31	47	63
220	10	12	16	24	32	47	63
230	10	12	16	24	32	48	64
240	10	12	16	24	32	48	64
250	10	13	17	25	33	49	65
260	10	13	17	25	33	49	65
270	10	13	17	25	33	49	66
280	10	13	17	25	33	50	66
290	10	13	17	26	34	50	66
300	10	14	18	26	34	50	67
310	10	14	18	26	34	51	67
320	10	14	18	26	34	51	67
330	10	14	18	26	35	51	68
340	10	14	18	26	35	51	68
350	10	14	18	27	35	51	68
360	10	14	18	27	35	52	68
370	10	14	19	27	35	52	68
380	10	15	19	27	35	52	69
390	10	15	19	27	35	52	69
400	11	15	19	27	36	52	69
410	11	15	19	27	36	53	69
420	11	15	19	27	36	53	-
430	11	15	19	28	36	53	-
440	11	15	19	28	36	53	-
495	11	15	20	28	37	54	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **550 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	11	18	31	44
70	10	10	10	12	19	32	46
80	10	10	10	14	21	35	49
90	10	10	10	16	23	38	53
100	10	10	10	18	25	40	56
110	11	11	11	19	27	43	58
120	11	11	12	20	28	44	60
130	11	11	13	22	30	46	63
140	11	11	14	23	31	48	65
150	11	11	15	24	32	49	67
160	11	11	16	25	33	51	68
170	11	12	16	25	34	52	-
180	11	13	17	26	35	53	-
190	11	13	18	27	36	55	-
200	11	14	18	28	37	56	-
210	11	14	19	28	38	57	-
220	12	15	19	29	39	58	-
230	12	15	20	30	39	59	-
240	12	15	20	30	40	60	-
250	12	16	21	31	41	61	-
260	12	16	21	31	41	61	-
270	12	16	21	31	42	62	-
280	12	17	22	32	42	62	-
290	12	17	22	32	42	63	-
300	12	17	22	32	42	63	-
310	12	17	22	32	43	63	-
320	12	17	22	33	43	63	-
330	12	17	23	33	43	64	-
340	12	18	23	33	43	64	-
350	13	18	23	33	44	64	-
360	13	18	23	33	44	65	-
370	13	18	23	34	44	65	-
380	13	18	23	34	44	65	-
390	13	18	23	34	44	65	-
400	13	18	24	34	45	65	-
410	13	18	24	34	45	66	-
420	13	19	24	34	45	66	-
430	13	19	24	34	45	66	-
440	14	19	24	35	45	66	-
495	14	19	25	35	46	67	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **600 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	10	15	26	38
70	10	10	10	10	16	27	39
80	10	10	10	12	18	30	42
90	10	10	10	13	19	32	44
100	10	10	10	14	21	34	47
110	10	10	10	15	22	35	49
120	10	10	10	16	23	37	50
130	10	10	10	17	24	38	52
140	10	10	11	18	25	39	53
150	10	10	12	19	26	40	54
160	10	10	12	19	27	41	55
170	10	10	13	20	27	42	56
180	10	10	13	20	28	42	57
190	10	10	13	21	28	43	58
200	10	10	14	21	29	44	59
210	10	10	14	22	29	44	59
220	10	11	14	22	30	45	60
230	10	11	15	22	30	45	60
240	10	11	15	23	30	46	61
250	10	11	15	23	31	46	61
260	10	12	15	23	31	46	62
270	10	12	16	23	31	47	62
280	10	12	16	24	31	47	63
290	10	12	16	24	32	47	63
300	10	12	16	24	32	48	63
310	10	12	16	24	32	48	64
320	10	13	17	24	32	48	64
330	10	13	17	25	33	48	64
340	10	13	17	25	33	49	65
350	10	13	17	25	33	49	65
360	10	13	17	25	33	49	65
370	10	13	17	25	33	49	65
380	10	13	17	25	33	49	66
390	10	13	17	26	34	50	66
400	10	14	18	26	34	50	66
410	10	14	18	26	34	50	66
420	10	14	18	26	34	50	66
430	10	14	18	26	34	50	67
440	10	14	18	26	34	50	67
495	10	14	18	27	35	51	68

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **600 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	10	16	28	40
70	10	10	10	10	17	29	41
80	10	10	10	12	19	32	45
90	10	10	10	14	21	35	48
100	10	10	10	16	23	37	51
110	11	11	11	17	25	39	54
120	11	11	11	18	26	41	56
130	11	11	12	20	27	43	58
140	11	11	13	21	29	45	60
150	11	11	13	22	30	46	62
160	11	11	14	22	31	47	64
170	11	11	15	23	32	49	66
180	11	11	15	24	33	50	67
190	11	12	16	25	34	51	69
200	11	12	17	26	34	52	-
210	11	13	17	26	35	53	-
220	12	13	18	27	36	55	-
230	12	13	18	27	37	56	-
240	12	14	19	28	38	57	-
250	12	14	19	29	38	58	-
260	12	15	19	29	39	58	-
270	12	15	20	29	39	58	-
280	12	15	20	30	39	59	-
290	12	15	20	30	40	59	-
300	12	15	20	30	40	60	-
310	12	16	21	30	40	60	-
320	12	16	21	31	40	60	-
330	12	16	21	31	41	61	-
340	12	16	21	31	41	61	-
350	12	16	21	31	41	61	-
360	12	16	21	31	41	61	-
370	12	17	22	32	42	62	-
380	12	17	22	32	42	62	-
390	12	17	22	32	42	62	-
400	12	17	22	32	42	62	-
410	12	17	22	32	42	63	-
420	12	17	22	32	42	63	-
430	12	17	22	32	43	63	-
440	12	17	22	33	43	63	-
495	13	18	23	33	43	64	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **650 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	10	13	24	34
70	10	10	10	10	14	24	35
80	10	10	10	10	16	27	38
90	10	10	10	11	17	29	41
100	10	10	10	13	19	31	43
110	10	10	10	14	20	33	45
120	10	10	10	15	21	34	47
130	10	10	10	16	22	35	48
140	10	10	10	16	23	36	50
150	10	10	10	17	24	37	51
160	10	10	11	18	25	38	52
170	10	10	11	18	25	39	53
180	10	10	12	19	26	40	54
190	10	10	12	19	26	40	55
200	10	10	13	20	27	41	55
210	10	10	13	20	27	42	56
220	10	10	13	20	28	42	57
230	10	10	13	21	28	43	57
240	10	10	14	21	28	43	58
250	10	10	14	21	29	44	58
260	10	10	14	22	29	44	59
270	10	11	14	22	29	44	59
280	10	11	15	22	30	45	60
290	10	11	15	22	30	45	60
300	10	11	15	23	30	45	60
310	10	11	15	23	30	46	61
320	10	11	15	23	31	46	61
330	10	12	15	23	31	46	61
340	10	12	16	23	31	46	62
350	10	12	16	23	31	47	62
360	10	12	16	24	31	47	62
370	10	12	16	24	31	47	62
380	10	12	16	24	32	47	63
390	10	12	16	24	32	47	63
400	10	12	16	24	32	47	63
410	10	13	16	24	32	48	63
420	10	13	17	24	32	48	63
430	10	13	17	24	32	48	64
440	10	13	17	25	32	48	64
495	10	13	17	25	33	49	65

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **650 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	10	14	25	36
70	10	10	10	10	15	26	38
80	10	10	10	11	17	29	42
90	10	10	10	12	19	32	45
100	10	10	10	14	21	34	48
110	11	11	11	15	22	36	50
120	11	11	11	17	24	38	53
130	11	11	11	18	25	40	55
140	11	11	11	19	26	41	57
150	11	11	12	20	27	43	59
160	11	11	13	21	29	44	60
170	11	11	13	21	29	46	62
180	11	11	14	22	30	47	64
190	11	11	14	23	31	48	65
200	11	11	15	24	32	49	66
210	11	11	16	24	33	50	68
220	12	12	16	25	34	51	69
230	12	12	17	26	35	52	-
240	12	12	17	26	35	53	-
250	12	13	17	27	36	54	-
260	12	13	18	27	36	55	-
270	12	13	18	27	37	55	-
280	12	14	18	28	37	56	-
290	12	14	19	28	37	56	-
300	12	14	19	28	38	57	-
310	12	14	19	28	38	57	-
320	12	14	19	29	38	57	-
330	12	15	19	29	38	58	-
340	12	15	19	29	39	58	-
350	12	15	20	29	39	58	-
360	12	15	20	29	39	58	-
370	12	15	20	30	39	59	-
380	12	15	20	30	40	59	-
390	12	15	20	30	40	59	-
400	12	16	20	30	40	59	-
410	12	16	21	30	40	60	-
420	12	16	21	30	40	60	-
430	12	16	21	31	40	60	-
440	12	16	21	31	41	60	-
495	12	16	21	31	41	61	-

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **700 °C** design temperature on steel pursuant to UNE EN 13381-4.

OPEN SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	10	11	21	31
70	10	10	10	10	12	22	32
80	10	10	10	10	14	25	35
90	10	10	10	10	16	27	38
100	10	10	10	11	17	29	40
110	10	10	10	12	18	30	42
120	10	10	10	13	19	32	44
130	10	10	10	14	20	33	45
140	10	10	10	15	21	34	47
150	10	10	10	16	22	35	48
160	10	10	10	16	23	36	49
170	10	10	10	17	23	37	50
180	10	10	11	17	24	37	51
190	10	10	11	18	25	38	52
200	10	10	11	18	25	39	52
210	10	10	12	19	25	39	53
220	10	10	12	19	26	40	54
230	10	10	12	19	26	40	54
240	10	10	13	20	27	41	55
250	10	10	13	20	27	41	55
260	10	10	13	20	27	42	56
270	10	10	13	20	28	42	56
280	10	10	13	21	28	42	57
290	10	10	14	21	28	43	57
300	10	10	14	21	28	43	58
310	10	10	14	21	29	43	58
320	10	10	14	21	29	44	58
330	10	11	14	22	29	44	59
340	10	11	14	22	29	44	59
350	10	11	15	22	29	44	59
360	10	11	15	22	30	45	59
370	10	11	15	22	30	45	60
380	10	11	15	22	30	45	60
390	10	11	15	23	30	45	60
400	10	11	15	23	30	45	60
410	10	11	15	23	30	45	61
420	10	12	15	23	31	46	61
430	10	12	15	23	31	46	61
440	10	12	16	23	31	46	61
495	10	12	16	24	31	47	62

The information in this chart appears in the characteristics report under file 079105-001.

MORTAR THICKNESS SPECIFICATION CHART ACCORDING TO THE REQUIRED FIRE RESISTANCE AND THE PROFILE'S SECTION FACTOR

Valid chart for **700 °C** design temperature on steel pursuant to UNE EN 13381-4.

CLOSED SECTION BEAMS AND PILARS

TEST RESULTS UNDER THE EN 13381-4 STANDARD AND CLASSIFICACION UNDER THE EN 13501-2 STANDARD

Mass (m ⁻¹)	R30 min	R45 min	R60 min	R90 min	R120 min	R180 min	R240 min
67	10	10	10	10	12	23	33
70	10	10	10	10	13	24	35
80	10	10	10	10	15	27	38
90	10	10	10	11	17	29	41
100	11	10	10	12	19	32	44
110	12	11	11	14	20	34	47
120	13	11	11	15	22	35	49
130	14	11	11	16	23	37	51
140	15	11	11	17	24	39	53
150	15	11	11	18	25	40	55
160	16	11	11	19	26	42	57
170	16	11	12	20	27	43	58
180	17	11	12	20	28	44	60
190	17	11	13	21	29	45	62
200	18	11	14	22	30	46	63
210	18	11	14	22	31	48	64
220	19	12	15	23	32	49	66
230	19	12	15	24	32	50	67
240	19	12	16	24	33	51	68
250	20	12	16	25	34	52	69
260	20	12	16	25	34	52	-
270	20	12	17	26	35	52	-
280	20	12	17	26	35	53	-
290	20	12	17	26	35	53	-
300	20	13	17	26	35	54	-
310	20	13	17	27	36	54	-
320	21	13	18	27	36	54	-
330	21	13	18	27	36	55	-
340	21	13	18	27	37	55	-
350	21	14	18	27	37	55	-
360	21	14	18	28	37	56	-
370	21	14	19	28	37	56	-
380	21	14	19	28	37	56	-
390	21	14	19	28	38	56	-
400	21	14	19	28	38	57	-
410	21	14	19	29	38	57	-
420	21	14	19	29	38	57	-
430	22	15	19	29	38	57	-
440	22	15	19	29	38	57	-
495	22	15	20	30	39	58	-

The information in this chart appears in the characteristics report under file 079105-001.