



**Höganäs Bjuf**  
Refractories

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# REFRACTORY BRICKS



# Fireclay bricks

PRODUCT NAME	CHEMICAL ANALYSIS		BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD	THERMAL SHOCK RESITANCE
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>					
Unit	[%]		[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]	[cycles]
ALU 30	29	1,6	2,10	18	40	1260/1380	> 15
BJUF F	34	2,3	2,15	18	35	1300/1440	> 30
VIKING 330	35	1,7	2,15	18	40	1330/1430	> 30
H-EXTRA	43	1,5	2,20	20	50	1350/1500	> 30
VIKING 450	45	1,2	2,25	18	40	1350/1500	> 30

# High alumina bricks

PRODUCT NAME	CHEMICAL ANALYSIS		BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD	THERMAL SHOCK RESITANCE
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>					
Unit	[%]		[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]	[cycles]
VICTOR 50	51	0,9	2,40	15	70	1480/1620	>30
ALEX	54	1,4	2,32	19	50	1400/1550	>30
ALSIT 56	55	1,2	2,45	15	60	1500/1650	>30
VICTOR 60	57	0,9	2,50	14	90	1500/>1700	>30
VICTOR HWL	58	1,0	2,42	17	70	1460/1610	>30
SILOX 60	59	0,9	2,45	17	70	1500/1650	>30
ALUMO 60A	60	0,5	2,50	15	80	1600/>1700	>30
VICTOR HWB	79	1,4	2,70	19	70	1500/1650	>30
VICTOR HWM	79	1,0	2,70	18	80	1500/1650	>30
VICTOR 80	83	1,5	2,75	21	75	1460/1600	>30
AL 85F	88	0,5	2,98	13	120	1620/1680	>30
VICTOR KORUND	90	0,1	2,95	12	175	>1700/>1700	>30
VICTOR 95	95	0,1	3,00	15	100	1600/>1700	>30

Note for all tables:

1. All data are the average values.
2. The values for the physical properties are valid for pressed normal bricks or similar formats.
3. Tests are conducted according to DIN standards.
4. The data may be changed

PERMANENT LINEAR CHANGE AT 1400 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT			
		500 °C	750 °C	1000 °C	1250 °C
[%]	[%]	[W/mK]			
±0,0	0,5	1,3	1,6	1,7	1,8
+1,0	0,6	1,5	1,7	1,7	1,8
-1,0	0,6	1,4	1,6	1,8	1,9
-0,3	0,6	1,4	1,6	1,8	1,9
±0,0	0,5	1,5	1,6	1,6	1,6



PERMANENT LINEAR CHANGE AT 1600 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT			
		500 °C	750 °C	1000 °C	1250 °C
[%]	[%]	[W/mK]			
+0,1	0,5	1,5	1,6	1,8	1,9
+2,5	0,6	1,3	1,5	1,4	1,5
+2,5	0,5	1,6	1,8	2,0	2,2
+0,2	0,5	1,5	1,8	2,2	2,6
+0,9	0,5	1,7	1,8	1,9	2,0
+1,4	0,5	1,8	1,9	1,9	1,9
-0,3	0,5	1,8	1,9	2,0	2,0
+5,0	0,7	1,6	1,9	2,0	2,2
+4,0	0,7	2,0	2,1	2,1	2,3
+1,6	0,7	2,0	2,5	2,6	2,8
+2,1	0,8	2,0	2,0	2,2	2,1
+0,4	0,7	3,7	3,5	3,3	3,4
+0,1	0,8	2,0	2,2	2,6	2,4

## Chemically bonded tempered high alumina bricks

PRODUCT NAME	CHEMICAL ANALYSIS			BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>				
Unit	[%]			[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]
ALRIK 60	59	0,9	1,6	2,60	15	40	1500/1690
ALRIK 80	80	1,3	1,6	2,75	18	40	1550/1660

## Chemically bonded fired high alumina bricks

PRODUCT NAME	CHEMICAL ANALYSIS			BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>				
Unit	[%]			[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]
VICTOR 60 RK	62	1,5	1,6	2,40	18	90	1420/1560
VICTOR 70 RK	73	1,6	1,6	2,60	17	75	1440/1580
VICTOR 80 RK	83	1,2	1,6	2,75	18	80	1450/1600
VICTOR 85BP	83	1,2	1,6	2,80	15	120	1550/1660
VICTOR 90BP	85	1,0	1,6	2,85	17	130	1500/1630



# icks

THERMAL SHOCK RESISTANCE	PERMANENT LINEAR CHANGE AT 1600 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT			
			500 °C	750 °C	1000 °C	1250 °C
[cycles]	[%]	[%]	[W/mK]			
>30	+2,0	0,9	2,0	2,1	2,2	2,3
>30	+3,7	0,7	2,1	2,4	2,5	2,6



THERMAL SHOCK RESISTANCE	PERMANENT LINEAR CHANGE AT 1600 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT			
			500 °C	750 °C	1000 °C	1250 °C
[cycles]	[%]	[%]	[W/mK]			
>30	+2,6	0,7	1,8	2,1	2,2	2,1
>30	+3,5	0,7	1,8	2,0	2,6	2,2
>30	+1,3	0,5	1,8	2,0	2,1	2,3
>30	+1,8	0,7	2,0	2,5	2,7	2,8
>30	-1,0	0,7	2,3	2,3	2,4	2,6



# Bricks boosted with silicon carbide

PRODUCT NAME	CHEMICAL ANALYSIS			BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	SiC				
Unit	[%]			[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]
ALSIC 4000	38	0,9	26	2,50	19	50	1400/1550
ALSIC 500A	49	0,6	8	2,45	16	45	1350/1500
ALSIC 500	50	1,3	9	2,35	19	50	1350/1480
VICTOR 75SIC	75	1,0	5	2,75	17	100	1380/1550
VICTOR 75	78	0,2	12	2,90	17	70	1480/1620

# Silicon carbide bricks

PRODUCT NAME	CHEMICAL ANALYSIS			BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD
	SiC	Fe <sub>2</sub> O <sub>3</sub>	MnO <sub>2</sub> +ZrO <sub>2</sub>				
Unit	[%]			[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]
SICTO	88	0,2	-	2,65	13	100	1510/>1700
SICTO LOOX	86	0,2	1,2	2,65	14	110	1470/>1700

# Plastically shaped fireclay bricks

PRODUCT NAME	CHEMICAL ANALYSIS		BULK DENSITY	APPARENT POROSITY	COLD CRUSHING STRENGTH	REFRACTORINESS UNDER LOAD
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>				
Unit	[%]		[g/cm <sup>3</sup> ]	[%]	[MPa]	T <sub>05</sub> /T <sub>5</sub> [°C]
AP-acid proof *	30	2,2	2,15	15	-	-
BJUF SX	35	1,5	2,10	18	60	1330/1460
KRONA X	37	1,7	2,10	19	60	1330/1480

\*Water absorption max 7%  
Acid resistance min 98,5%

# Plastic shaped bricks for ingot casting

PRODUCT NAME	CHEMICAL ANALYSIS		BULK DENSITY	APPARENT POROSITY
	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>		
Unit	[%]		[g/cm <sup>3</sup> ]	[%]
BJUF KX	37	1,9	2,15	18
VICTOR KX	52	1,6	2,35	14
VICTORIA	54	1,4	2,35	19



THERMAL SHOCK RESITANCE	PERMANENT LINEAR CHANGE AT 1400 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT		
			500 °C	750 °C	1000 °C
[cycles]	[%]	[%]	[W/mK]		
>30	+1,4	0,5	2,8	3,0	3,5
>30	+0,6	0,5	2,0	2,5	3,0
>30	+0,6	0,5	2,0	2,6	3,0
>30	+1,0	0,6	2,2	2,5	3,2
>30	±0,0	0,6	2,6	3,1	3,6



THERMAL SHOCK RESITANCE	PERMANENT LINEAR CHANGE AT 1400 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT		
			500 °C	750 °C	1000 °C
[cycles]	[%]	[%]	[W/mK]		
>30	±0,0	0,6	13,5	13,5	13,0
>30	±0,0	0,5	12,5	12,5	12,0

THERMAL SHOCK RESITANCE	PERMANENT LINEAR CHANGE AT 1400 °C/5h	LINEAR THERMAL EXPANSION AT 1000 °C	THERMAL CONDUCTIVITY AT			
			500 °C	750 °C	1000 °C	1250 °C
[cycles]	[%]	[%]	[W/mK]			
-	-	-	-	-	-	-
>30	+0,5	0,6	1,4	1,6	1,8	1,9
>30	+0,5	0,6	1,5	1,6	1,6	1,7

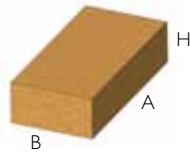
## Zirconium casting nozzles

PRODUCT NAME	CHEMICAL ANALYSIS			BULK DENSITY	APPARENT POROSITY
	ZrO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO		
Unit	[%]			[g/cm <sup>3</sup> ]	[%]
VICTOR Z	65	0,2	-	3,53	20
VICTOR ZA	66	0,2	-	3,69	19
ZIRKONIA	94	0,1	4	4,50	20



# Standard format on bricks

## Squares



No.	Dimensions [mm]			ISO	Volume [dm <sup>3</sup> ]
	A	B	H		
I	230	114	64	ISO	1,68
IR	230	114	13		0,34
IA	230	114	25		0,66
IB	230	114	32	ISO	0,84
IC	230	114	50		1,31
ID	230	114	76		1,99
IE	230	114	38	ISO	1,00
I0	300	148	75		3,33
I0A	300	148	25		1,11
I0B	300	148	40		1,78
I0C	300	148	50		2,22
I0E	300	148	65		2,89
I0G	300	148	100		4,44
I5	230	150	100		3,45
I6	230	200	100		4,60

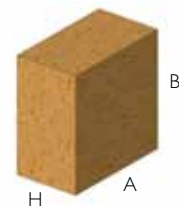
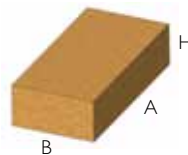
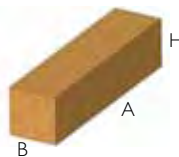
## Slabs

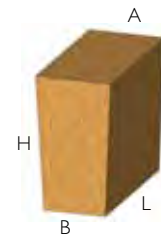
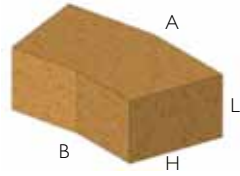


No.	Dimensions [mm]			ISO	Volume [dm <sup>3</sup> ]
	A	B	H		
21	230	230	64	ISO	3,39
21D	230	230	76	ISO	4,02
24	250	250	50		3,13
26	250	250	65		4,06
27	300	300	50		4,50
28	300	300	65		5,85
29	300	300	75		6,75
67	450	450	65		13,16
62	450	450	75		15,19
62/2	450	225	75		7,59
630	600	600	75		27,00
630/2	600	300	75		13,50
640	600	600	100		36,00
640/2	600	300	100		18,00

## Special squares

No.	Dimensions [mm]			Volume [dm <sup>3</sup> ]
	A	B	H	
<b>Pups</b>				
IX	230	57	64	0,84
I0X	300	74	75	1,67
<b>½ squares</b>				
IY	114	114	64	0,83
I0Y	148	148	75	1,64
<b>¾ squares</b>				
IZ	172	114	64	1,25
I0Z	223	148	75	2,48
<b>Bonders</b>				
IS	230	172	64	2,53
I0S	300	223	75	5,02
<b>Skew blocks</b>				
IV	230	230	114	6,03
I0V	300	300	150	13,5





## Circle bricks

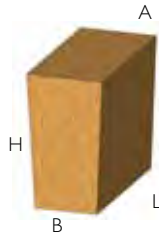
No.	Dimensions [mm]				Radius <sup>1)</sup> [mm]	Volume [dm <sup>3</sup> ]
	H	A	B	L		
ME	115	229	175	75	377	1,74
MD	115	229	182	75	450	1,77
MA	115	229	190	75	566	1,81
M	115	229	203	75	907	1,86
MB	115	229	209	75	1213	1,89
MC	115	229	215	75	1783	1,91
90	150	300	200	100	303	3,75
86	150	260	200	100	505	3,45
87	150	240	200	100	758	3,30
88	150	225	200	100	1212	3,19
89	150	213	200	100	2331	3,10
95	150	207	200	100	4329	3,05
82	200	280	200	100	505	4,80
83	200	253	200	100	762	4,53
84	200	233	200	100	1224	4,33
85	200	218	200	100	2244	4,18
93	200	209	200	100	4489	4,09
79	250	233	175	100	763	5,10
80	250	212	175	100	1196	4,84
81	250	195	175	100	2213	4,63
91	250	185	175	100	4425	4,50
30	300	210	150	100	760	5,40
32	300	188	150	100	1200	5,07
34	300	170	150	100	2280	4,80
35	300	160	150	100	4560	4,65

1) Internal radius is valid with 2 mm joint

## Bricks for rotary kilns

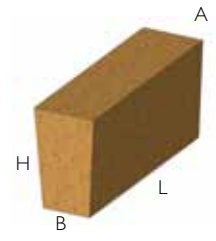
No.	Dimensions [mm]				Radius <sup>1)</sup> [mm]	Volume [dm <sup>3</sup> ]	
	H	L	A	B			
216	160	198	103	86,0	ISO	988	2,99
316	160	198	103	92,0	ISO	1527	3,09
416	160	198	103	94,5	ISO	1976	3,13
516	160	198	103	96,5	ISO	2585	3,16
616	160	198	103	97,5	ISO	3055	3,18
716	160	198	103	98,3	ISO	3574	3,19
218	180	198	103	84,0	ISO	995	3,33
318	180	198	103	90,5	ISO	1512	3,45
418	180	198	103	93,5	ISO	1989	3,50
518	180	198	103	95,5	ISO	2520	3,54
618	180	198	103	97,0	ISO	3150	3,56
718	180	198	103	97,7	ISO	3566	3,58
220	200	198	103	82,0	ISO	1000	3,66
320	200	198	103	89,0	ISO	1500	3,80
420	200	198	103	92,5	ISO	2000	3,87
520	200	198	103	94,7	ISO	2530	3,91
620	200	198	103	96,2	ISO	3088	3,94
720	200	198	103	97,0	ISO	3500	3,96
820	200	198	103	97,8	ISO	4038	3,98
322	220	198	103	88,0	ISO	1540	4,16
422	220	198	103	91,5	ISO	2009	4,24
522	220	198	103	94,0	ISO	2567	4,29
622	220	198	103	95,5	ISO	3080	4,32
722	220	198	103	96,5	ISO	3554	4,35
822	220	198	103	97,3	ISO	4053	4,36
425	250	198	103	90,0	ISO	2019	4,78
525	250	198	103	92,7	ISO	2549	4,84
625	250	198	103	94,5	ISO	3088	4,89
725	250	198	103	95,5	ISO	3500	4,91
825	250	198	103	96,5	ISO	4038	4,94

1) External radius with 2 mm joint



## End arch bonders

No.	H	Dimensions [mm]			Radius <sup>1)</sup> [mm]	Volume [dm <sup>3</sup> ]
		L	A	B		
I2AR	230	172	76	52	ISO 518	2,53
I2BR	230	172	72	56	ISO 834	2,53
I2CR	230	172	69	59	ISO 1403	2,53
I2DR	230	172	66	62	ISO 3680	2,53
75FR	300	223	75	49	588	4,15
75AR	300	223	75	54	800	4,32
75BR	300	223	75	63	1625	4,62
75CR	300	223	75	68	3000	4,78
75ER	300	223	75	71	5475	4,88



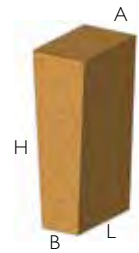
## Side arches

No.	L	Dimensions [mm]			Radius <sup>1)</sup> [mm]	Volume [dm <sup>3</sup> ]
		H	A	B		
I1A	230	114	84	44		1,68
I1B	230	114	76	52	ISO 257	1,68
I1C	230	114	72	56	ISO 413	1,68
I1D	230	114	69	59	ISO 695	1,68
I1E	230	114	67	61	ISO 1197	1,68
72C	300	148	75	47	259	2,71
72A	300	148	75	58	522	2,95
72B	300	148	75	65	992	3,11
72F	300	148	75	68	1480	3,17

## Double end arches

No.	H	Dimensions [mm]			Radius <sup>1)</sup> [mm]	Volume [dm <sup>3</sup> ]
		L	A	B		
I2AD	230	230	76	52	ISO 518	3,39
I2BD	230	230	72	56	ISO 834	3,39
I2CD	230	230	69	59	ISO 1403	3,39
I2DD	230	230	66	62	ISO 3680	3,39
75AD	300	300	75	54	800	5,81
75BD	300	300	75	63	1625	6,21
75CD	300	300	75	68	3000	6,44
75ED	300	300	75	71	5475	6,57

1) Internal radius with 2 mm joint



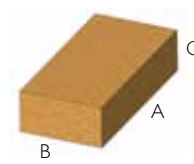
## End arches

No.	H	Dimensions [mm]			Radius <sup>1)</sup> [mm]	Volume [dm <sup>3</sup> ]
		L	A	B		
I2A	230	114	76	52	ISO 518	1,68
I2B	230	114	72	56	ISO 834	1,68
I2C	230	114	69	59	ISO 1403	1,68
I2D	230	114	66	62	ISO 3680	1,68
75F	300	148	75	49	588	2,75
75A	300	148	75	54	800	2,86
75B	300	148	75	63	1625	3,06
75C	300	148	75	68	3000	3,17
75E	300	148	75	71	5475	3,24

1) Internal radius with 2 mm joint

# AP Bricks

No.	Dimensions [mm]			Weight [kg/pc]
	A	B	C	
30 DV	250	120	30	2,03
40 DV	250	120	40	2,70
50 DV	250	120	50	3,38
65 DV	250	120	65	4,38



No.	Dimensions [mm]				Weight [kg/pc]
	A	B	C	D	
40 DV:65K	250	120	40	65	2,08
40 DV:80K	250	120	40	80	2,25
40 DV:95K	250	120	40	95	2,42
40 DV:110K	250	120	40	110	2,59



No.	Dimensions [mm]			Radius <sup>1)</sup> [mm]	Weight [kg/pc]
	A	B	C		
40 DV:250R	250	120	40	250	2,48
40 DV:350R	250	120	40	350	2,55
40 DV:500R	250	120	40	500	2,59
40 DV:800R	250	120	40	800	2,63



1) External radius with 2 mm joint



**BORGESTAD**  
INDUSTRIES

## Höganäs Bjuf - Part of Borgestad Industries

Höganäs Bjuf is part of Borgestad Industries, a producer of refractory products with over a century of experience. These years of activity in the industry have enabled the group to accumulate a great deal of expertise in refractory materials, resulting in a depth of knowledge to offer leading solutions. At Borgestad Industries, high quality and punctual delivery is always in focus.

ALWAYS A SMART CHOICE

