Deutsches Institut für Bautechnik

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Approval body for construction products and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and Laender Governments

Designated according to Article 29 of Regulation (EU) No 305/2011 and member of EOTA (European Organisation for Technical Assessment)

European Technical Assessment ETA-18/0141 of 28 May 2019

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	KLB-aggregate concrete masonry units (ligthweight aggregates)
Product family to which the construction product belongs	Aggregate concrete masonry units (lightweight aggregates) with specific moisture conversion factor Fm
Manufacturer	KLB Klimaleichtblock GmbH Lohmannstrasse 31 56626 Andernach DEUTSCHLAND
Manufacturing plant	
This European Technical Assessment contains	12 pages including 8 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	EAD 170006-00-0305

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Specific Part

1 Discritption of the product

The construction products "KLB-Vollblock SW1", "KLB Plan-Block SW1", "KLB-Plan-Hohlblock W3", "KLBQUADRO Planelement", "KLB-Plan-Hohlblock", "KLB-Hohlblock", "KLB-Plan-Vollstein" and "KLB-Plan-Vollblock" are aggregate concrete masonry units (ligthweight aggregates), category I according to EN 771-3. The construction products are made of cement regarding to EN 197-1, aggregates regarding to EN 13055 and/or EN 12620 and if necessary admixtures.

The construction products contain a mass and volume fraction of ≤ 1,0 % of homogeneously distributed organic materials.

The aggregate concrete masonry units according to EN 771-3 show different types and dimensions (see annex 1 to 8). In addition the performance of the characteristic of a specific moisture conversion factor is given.

2 Specification of the intended use in accordance with the applicable European assessment Document

The intended uses are different types of load bearing and non-load bearing applications in all forms of walling including single leaf, cavity, partitions, retaining, basement and general use below ground level, including walling for fire protection, thermal insulation, sound insulation according to EN 771-3. The products are particularly used for walls with specific requirements to thermal insulation.

3 Performance of the product and references to the methods used for its assessment

3.1 Mechanical Resistance and Stability (BWR 1)

Essential characteristic	Performance
Dimensions	See Annexes 1 to 8
Dimensional tolerances	See Annexes 1 to 8
Configuration	See Annexes 1 to 8
Compressive strength	npa
Shear bonds strength	npa
Flexural bond strength	npa

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1

3.3 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Water absorption	npa
Water vapour permeability	npa

3.4 Protection against noise (BWR 5)

Essential characteristic	Performance
Direct airborne sound insulation	npa

3.5 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal resistance	npa
Gross dry density	See Annexes 1 to 8
Net dry density	npa
Limit deviations of density	See Annexes 1 to 8
Specific moisture conversion factor F_m	See Annexes 1 to 8

3.6 General aspects

The verification of durability and serviceability is only ensured if the specifications of the technical file of the manufacturer are kept.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to Decision of the Commission 2015/1958 (EU) the system of assessment and verification of constancy of performance (see Annex V and Article 65 Paragraph 2 to Regulation (EU) No 305/2011) given in the following table applies.

Product	Intended use(s)	Level or class	System
Masonry units	For building works	-	2+
	For uses subject to regulation on reaction to fire	-	4

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 28 May 2019 by Deutsches Institut für Bautechnik

Dr.-Ing. Lars Eckfeldt
p. p. Head of Department

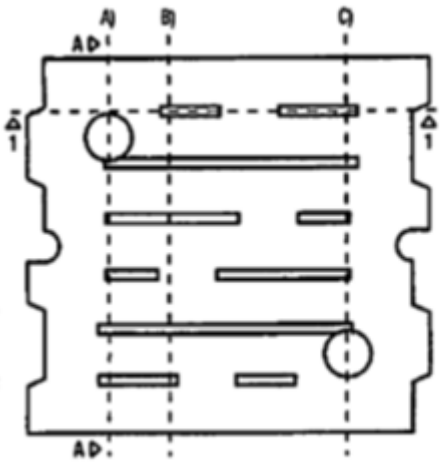
beglaubigt:
Sollich

Deutsches Institut für Bautechnik DIBt

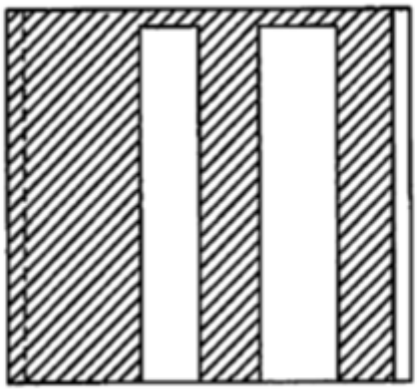
KLB-Vollblock SW1

Aggregate concrete masonry units (lightweight aggregates) of category I
load bearing or non load bearing walls

			alternative					
Dimensions	length l = 247 mm		497					
	width w = 175 mm		240	300	365	425	490	
	height h = 238 mm							
Tolerances Tolerance category D1	length l =	± 3,0 mm						
	width w =	± 3,0 mm						
	height h =	± 4,0 mm						
Configuration	Example see below							
Reaction to fire	Class	A1						
Specific moisture conversion factor F_m		1,05						
Gross dry density								
Mean value								
minimum	kg/m³	405	455	505	555	605	655	705
maximum	kg/m³	450	500	550	600	650	700	800
Individual value								
minimum	kg/m³	355	405	455	505	555	605	605
maximum	kg/m³	500	550	600	650	700	750	900



bottom view



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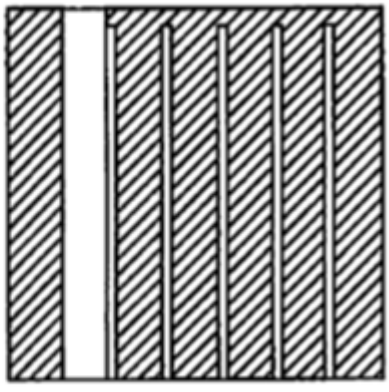

A-A

KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 1
Essential characteristics and configuration of "KLB-Vollblock SW 1"	

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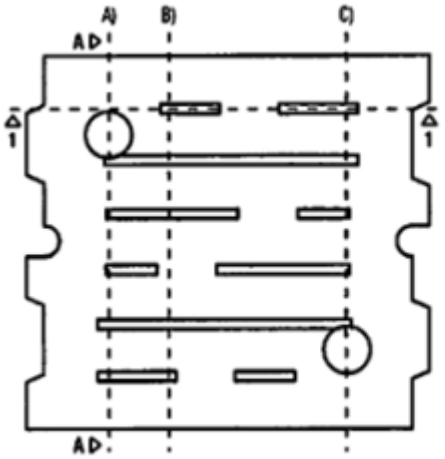
KLB-Plan-Block SW1

Aggregate concrete masonry units (lightweight aggregates) of category I
load bearing or non load bearing walls

			alternative					
			497					
Dimensions	length l = 247 mm		240	300	365	425	490	
	width w = 175 mm							
	height h = 249 mm							
Tolerances Tolerance category D4	length l =	± 3,0 mm						
	width w =	± 3,0 mm						
	height h =	± 1,0 mm						
Flatness of bed faces		≤ 1,0 mm						
Plane parallelism of bed faces		≤ 1,0 mm						
Configuration	Example see below							
Reaction to fire	Class	A1						
Specific moisture conversion factor F_m		1,05						
Gross dry density								
Mean value								
minimum	kg/m³	405	455	505	555	605	655	705
maximum	kg/m³	450	500	550	600	650	700	800
Individual value								
minimum	kg/m³	355	405	455	505	555	605	605
maximum	kg/m³	500	550	600	650	700	750	900



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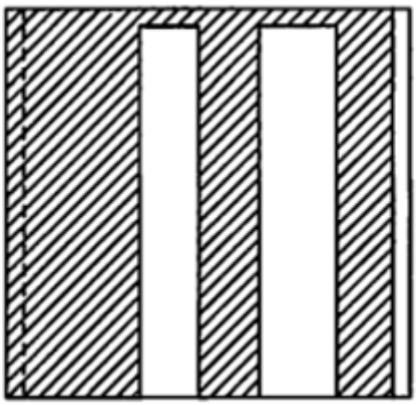

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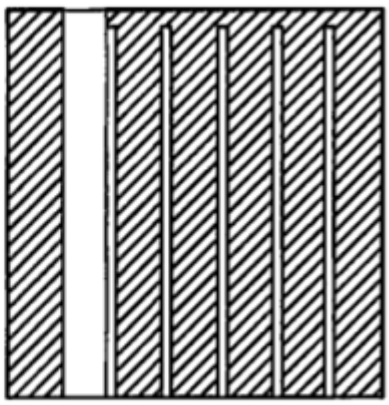

A-A

KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 2
Essential characteristics and configuration of "KLB-Plan-Block SW 1"	

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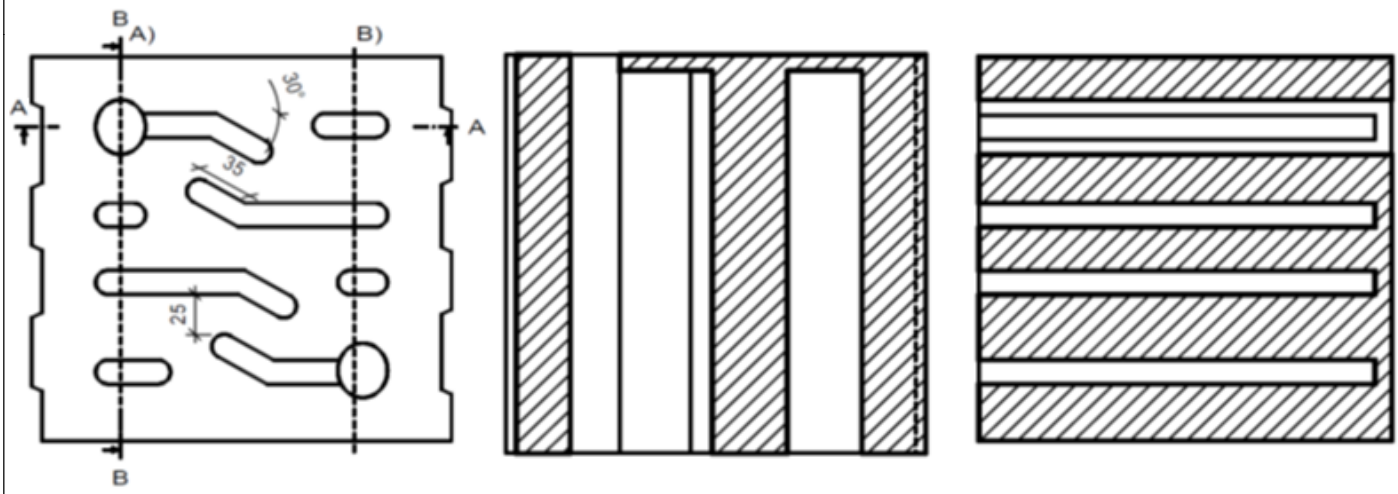
KLB-Plan-Hohlblock W3

Aggregate concrete masonry units (lightweight aggregates) of category I
load bearing or non load bearing walls

			alternative					
Dimensions	length l = 247 mm		497					
	width w = 175 mm		240	300	365			
	height h = 249 mm							
Tolerances Tolerance category D4	length l =	± 3,0 mm						
	width w =	± 3,0 mm						
	height h =	± 1,0 mm						
Flatness of bed faces		≤ 1,0 mm						
Plane parallelism of bed faces		≤ 1,0 mm						
Configuration	Example see below							
Reaction to fire	Class	A1						
Specific moisture conversion factor F_m		1,05						
Gross dry density								
Mean value								
minimum	kg/m³	405	455	505	555	605	655	705
maximum	kg/m³	450	500	550	600	650	700	800
Individual value								
minimum	kg/m³	355	405	455	505	555	605	605
maximum	kg/m³	500	550	600	650	700	750	900



bottom view **A-A** **B-B**

KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 3
Essential characteristics and configuration of "KLB-Plan-Hohlblock W3"	

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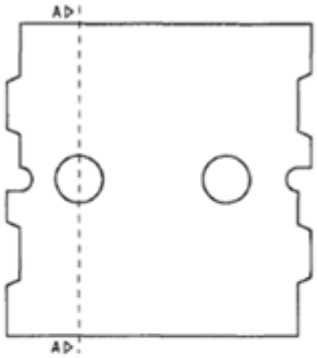
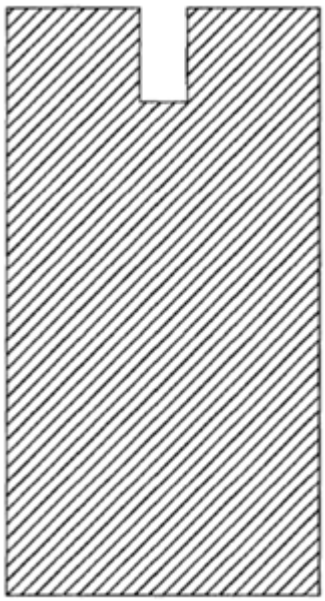
KLBQUADRO Planelement Aggregate concrete masonry units (lightweight aggregates) of category I load bearing or non load bearing walls			**alternative**							
Dimensions	length l = 497 mm		150	175	200	214	240	265	300	365
	width w = 115 mm									
	height h = 498 mm									
Tolerances Tolerance category D4	length l =	± 3,0 mm								
	width w =	± 3,0 mm								
	height h =	± 1,0 mm								
Flatness of bed faces		≤ 1,0 mm								
Plane parallelism of bed faces		≤ 1,0 mm								
Configuration	Example see below									
Reaction to fire	Class	A1								
Specific moisture conversion factor F_m		1,05								
Gross dry density										
Mean value										
minimum	kg/m³	405	455	505	555	605	655	705	905
maximum	kg/m³	450	500	550	600	650	700	800	1000
Individual value										
minimum	kg/m³	355	405	455	505	555	605	605	805
maximum	kg/m³	500	550	600	650	700	750	900	1100



top view



A-A

KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 4
Essential characteristics and configuration of "KLBQUADRO Planelement"	

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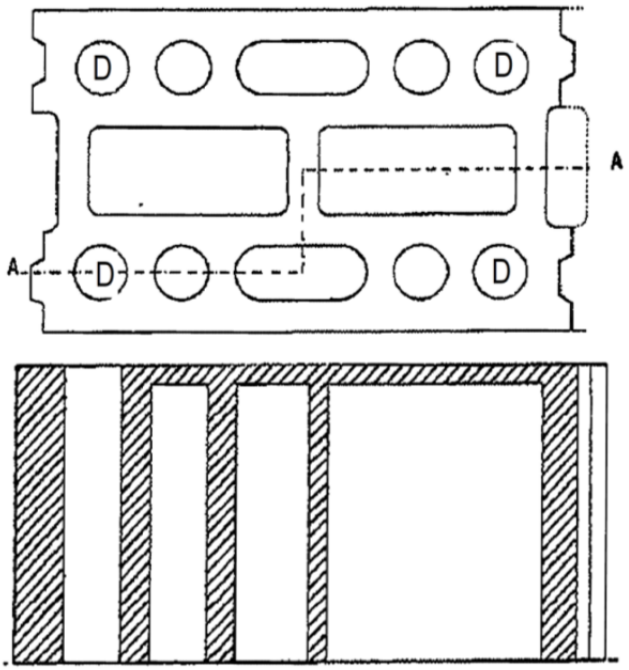
KLB-Plan-Hohlblock

Aggregate concrete masonry units (lightweight aggregates) of category I
load bearing or non load bearing walls

Dimensions	length l = 240 mm	**alternative**	247	307	374	497				
	width w = 115 mm		150	175	200	240	300	365	425	490
	height h = 249 mm									
Tolerances Tolerance category D4	length l = ± 3,0 mm									
	width w = ± 3,0 mm									
	height h = ± 1,0 mm									
Flatness of bed faces	≤ 1,0 mm									
Plane parallelism of bed faces	≤ 1,0 mm									
Configuration	Example see below									
Reaction to fire	Class A1									
Specific moisture conversion factor F_m	1,05									
Gross dry density										
Mean value										
minimum	kg/m³ 405		455	505	555	605	655	705	805	905
maximum	kg/m³ 450		500	550	600	650	700	800	900	1000
Individual value										
minimum	kg/m³ 355		405	455	505	555	605	605	705	805
maximum	kg/m³ 500		550	600	650	700	750	900	1000	1100



KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 5
Essential characteristics and configuration of "KLB-Plan-Hohlblock"	

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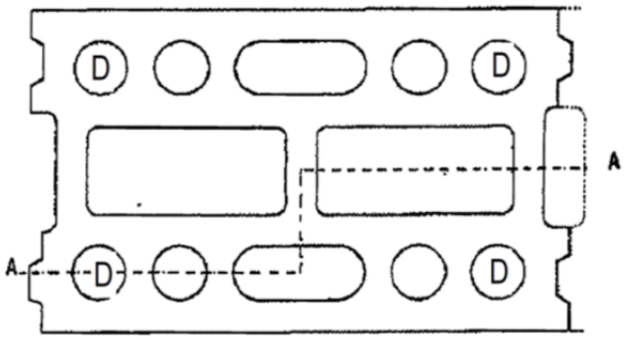
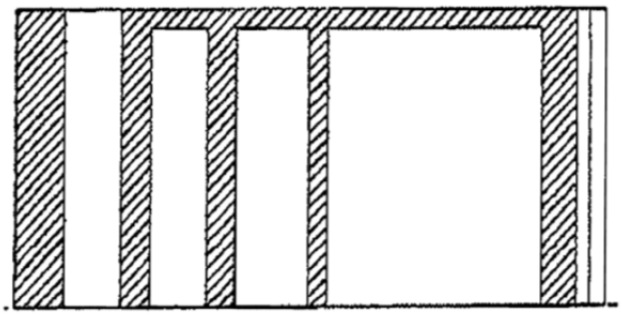
KLB- Hohlblock

Aggregate concrete masonry units (lightweight aggregates) of category I
load bearing or non load bearing walls

			alternative				
Dimensions	length l = 247 mm		240	307	372	495	497
	width w = 175 mm		240	300	365		
	height h = 238 mm						
Tolerances Tolerance category D1	length l =	± 3,0 mm					
	width w =	± 3,0 mm					
	height h =	± 4,0 mm					
Configuration	Example see below						
Reaction to fire	Class	A1					
Specific moisture		1,05					
Gross dry density							
Mean value							
minimum	kg/m³	555	605	655	705	805	905
maximum	kg/m³	600	650	700	800	900	1000
Individual value							
minimum	kg/m³	505	555	605	605	705	805
maximum	kg/m³	650	700	750	900	1000	1100





KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 6
Essential characteristics and configuration of "KLB-Hohlblock"	

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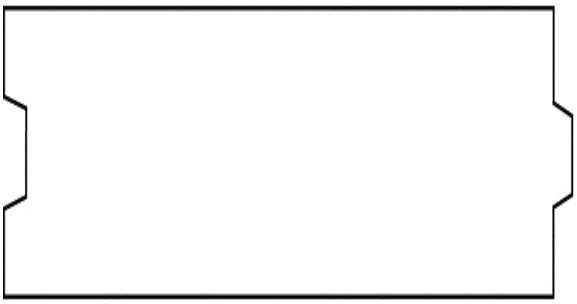
KLB-Plan-Vollstein

Aggregate concrete masonry units (lightweight aggregates) of category I
load bearing or non load bearing walls

			alternative							
Dimensions	length l = 247 mm		497							
	width w = 115 mm		140	150	175	200	240	300	365	425	495
	height h = 60 mm		80	124						
Tolerances Tolerance category D4	length l =	± 3,0 mm								
	width w =	± 3,0 mm								
	height h =	± 1,0 mm								
Flatness of bed faces		≤ 1,0 mm								
Plane parallelism of bed faces		≤ 1,0 mm								
Configuration	Example see below									
Reaction to fire	Class	A1								
Specific moisture conversion factor F_m		1,05								
Gross dry density										
Mean value										
minimum	kg/m³	405	455	505	555	605	655	705	805	905	1010
maximum	kg/m³	450	500	550	600	650	700	800	900	1000	1200
Individual value										
minimum	kg/m³	505	405	455	505	555	605	605	705	805	910
maximum	kg/m³	650	550	600	650	700	750	900	1000	1100	1300



KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 7
Essential characteristics and configuration of "KLB-Plan-Vollstein"	

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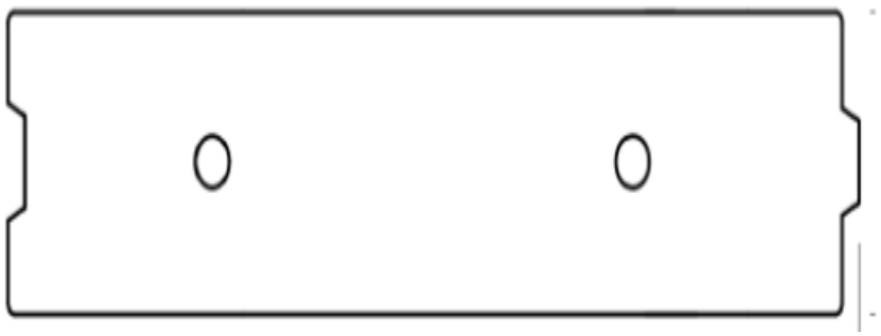
KLB-Plan-Vollblock Aggregate concrete masonry units (lightweight aggregates) of category I load bearing or non load bearing walls			**alternative**							
Dimensions	length l = 249 mm		309	374	497					
	width w = 115 mm		150	175	200	240	300	365	425	490
	height h = 249 mm									
Tolerances Tolerance category D4	length l =	± 3,0 mm								
	width w =	± 3,0 mm								
	height h =	± 1,0 mm								
Flatness of bed faces		≤ 1,0 mm								
Plane parallelism of bed faces		≤ 1,0 mm								
Configuration	Example see below									
Reaction to fire	Class	A1								
Specific moisture conversion factor F_m		1,05								
Gross dry density										
Mean value										
minimum	kg/m³	405	455	505	555	605	655	705	805	905	1010
maximum	kg/m³	450	500	550	600	650	700	800	900	1000	1200
Individual value										
minimum	kg/m³	505	405	455	505	555	605	605	705	805	910
maximum	kg/m³	650	550	600	650	700	750	900	1000	1100	1300



KLB-aggregate concrete masonry units (ligthweight aggregates)	Annex 8
Essential characteristics and configuration of "KLB-Plan-Vollblock"	