

NATIONAL DECLARATION OF PERFORMANCE No. PL-2020-001

1. The name and trade name of the construction product: *ARVEX plastic and metal expansion fasteners*
 2. The type of construction product: *AL, KARL, AC, ARL, ASL, AST, ALC, ALS, ALK, ALX, ARL HK, ARL HS, ALHK, ALHS, ALHO, ALHZ, ALHB, ALDD, ALDG, ALSA, ALUM, WRL, A, AT, AG, AGT, KARS, ACZ, ARZ, ARS, ART, ARS HK, ARS HS, AK, AX, AS, ATK, ATX, ATS, AGK, AGX, AGS, AGTK, AGTX, AGTS, AHK, AHS, AHO, AHZ, ATHK, ATHS, ATHO, ATHZ, AGHK, AGHS, AGHO, AGHZ, AHB, AGTHK, AGTHS, AGTHO, AGTHZ, AGTHB, ADD, ADG, ATDD, ATDG, AGDD, AGDG, AGTDD, AGTDG, ASA, AUM, AGTUM, WRK*.....
 3. Intended use or uses of the construction product: *non-structural multi-point static load anchorages of building elements in normal concrete substrates of class no lower than C20/25, according to norm PN-EN 206+A1:2016, full solid bricks, according to norm PN-EN 771-1+A1:2015, of a compressive strength not lower than 20 N/mm² (class not lower than 20), ceramic hollow bricks, according to norm PN-EN 771-1+A1:2015, with a wall thickness not lower than 10 mm and of a compressive strength not less than 15 N/mm² (class not lower than 15), autoclaved aerated concrete elements, according to norm PN-EN 771-4+A1:2015, of a compressive strength not less than 2,0 N/mm² (class not lower than 2) and gross density in dry condition not less than 350 kg/m³*
 4. Name and address of the manufacturer and place of manufacture of the product:
ARVEX GROBELNY Sp. z o.o., ul. Makuszyńskiego 4, 30-969 Krakow, Poland.....
 5. Name and address of authorized representative, if applicable: *N/A*.....
 6. National system of assessment and verification of constancy of performance: *System 2+*.....
 7. Technical specification:
 - 7a. Polish Product Standard: *N/A*.....
Name of accredited certification body, accreditation number and the number of national certificate or name of accredited laboratory/laboratories and number of accreditation: *N/A*
 - 7b. National Technical Assessment:
National Technical Assessment No. ITB-KOT-2020/1115 edition 1 dated 27th March 2020
- Technical Assessment Body/National Technical Assessment Body:
Instytut Techniki Budowlanej w Warszawie, ul. Filtrowa 1
- Name of the accredited certification body, accreditation number and certificate number:
Zakład Certyfikacji Instytutu Techniki Budowlanej w Warszawie, ul. Filtrowa 1, accreditation no. AC 020, National Certificate of conformity of Factory Production Control no. 020-UWB-0998/Z



8. Declared Performance:

Essential characteristics of the construction product for the intended use or uses		Declared performance								Remarks	
Characteristic pull-out resistance of ARVEX plastic and metal expansion fasteners with polyamide plastic sleeves (AL and KARL sleeves) in full solid bricks¹⁾, ceramic hollow bricks²⁾ and aerated concrete³⁾ substrate and shear resistance											
Type of plastic sleeve		AL, KARL								ITB-KOT-2020/1115 edition 1	
Fastener (sleeve) diameter [mm]		Ø6		Ø8							
Type of steel core element		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HS, SDD, SDG	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, SDD, SDG	HS	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HKR, SDD, SDG	HSR	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, SDD, SDG	HS	HZ		
Steel element diameter [mm]		4	5		5,5		6				
Effective anchorage depth h_{ef} [mm]		55		65							
Characteristic pull-out and shear resistance N_{Rk} i V_{Rk} [kN]	Full solid bricks ¹⁾	0,4	0,9	0,6	0,9	0,4	1,5	1,0	0,6		
	Ceramic hollow bricks ²⁾	0,2	0,5		0,6	0,4	0,6				
	Aerated concrete ³⁾	0,3	0,6		0,6	0,4	0,6				
Type of plastic sleeve		AL, KARL									ITB-KOT-2020/1115 edition 1
Fastener (sleeve) diameter [mm]		Ø10			Ø12						
Type of steel core element		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HS, HZ, SDD, SDG	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HKR, HSR, SDD, SDG	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HB, WR, SDD, SDG	HS, HZ	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, SDD, SDG	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HB, WR, SDD, SDG	HS, HO	HZ		
Steel element diameter [mm]		6	7	8		9	10				
Effective anchorage depth h_{ef} [mm]		70			85						
Characteristic pull-out and shear resistance N_{Rk} i V_{Rk} [kN]	Full solid bricks ¹⁾	0,5	0,9	3,0	1,5	10,0	5,5	2,5	3,0		
	Ceramic hollow bricks ²⁾	0,2	0,4	0,9		1,5	1,5				
	Aerated concrete ³⁾	0,6	0,75	0,9		2,0	2,0				
Type of plastic sleeve		AL, KARL								ITB-KOT-2020/1115 edition 1	
Fastener (sleeve) diameter [mm]		Ø14			Ø16						
Type of steel core element		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HKR, HS, HSR, HO, HOR, HZ, HZR, HB, WR, SDD, SDG			WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, WR, SDD, SDG			HS			
Steel element diameter [mm]		10			12						
Effective anchorage depth h_{ef} [mm]		90			120						
Characteristic pull-out and shear resistance N_{Rk} i V_{Rk} [kN]	Full solid bricks ¹⁾	2,0			7,5			3,5			
	Ceramic hollow bricks ²⁾	1,2			1,5						
	Aerated concrete ³⁾	1,5			1,5						

¹⁾ full solid bricks, class not lower than 20, according to norm PN-EN 771-1+A1:2015

²⁾ ceramic hollow bricks, class not lower than 15 and wall thickness ≥ 10 mm, according to norm PN-EN 771-1+A1:2015

³⁾ autoclaved aerated concrete (AAC), class not lower than 2, gross density in dry conditions ≥ 350 kg/m³, according to norm PN-EN 771-4+A1:2015

Essential characteristics of the construction product for the intended use or uses		Declared performance										Remarks														
Characteristic pull-out resistance of ARVEX plastic and metal expansion fasteners with polyamide plastic sleeves (A, AG and KARS sleeves) in concrete ¹⁾ and full solid bricks ²⁾ substrate and shear resistance																										
Type of plastic sleeve		A, AG				A, AG, KARS						ITB-KOT-2020/1115 edition 1														
Fastener (sleeve) diameter [mm]		Ø5		Ø6		Ø8			Ø10																	
Type of steel core element		WKN, WKF, WASL, WT, WS, SDD, SDG, WR		WKN, WKF, WASL, WT, WS, HK, HS, SDD, SDG, WR		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HKR, HS, WR, SDD, SDG			WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HKR, SDD, SDG				HSR	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HK, HS, HZ, WR, SDD, SDG		HSR										
Steel element diameter [mm]		3		4		5			5,5				6		7											
Effective anchorage depth h _{ef} [mm]		25		30		40							50													
Characteristic pull-out and shear resistance N _{Rk} i V _{Rk} [kN]		Normal concrete ¹⁾		0,1		0,2		0,6			1,5		0,4	0,1		0,9										
		Full solid bricks ²⁾		0,4		0,5		0,6			1,5		0,4	0,2		2,0	0,9									
Type of plastic sleeve		A, AG, KARS											ITB-KOT-2020/1115 edition 1													
Fastener (sleeve) diameter [mm]		Ø12						Ø14																		
Type of steel core element		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, WR, SDD, SDG		HKR		HSR		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, WR, SDD, SDG		HK				HS, HZ		HB	WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, HB, WR, SDD, SDG		HK	HS, HO	HZ					
Steel element diameter [mm]		7				8				10																
Effective anchorage depth h _{ef} [mm]		60						70																		
Characteristic pull-out and shear resistance N _{Rk} i V _{Rk} [kN]		Normal concrete ¹⁾		3,0		3,0		0,9		2,5		1,5		2,5	4,0		2,5	3,0								
		Full solid bricks ²⁾		4,5		3,5		0,9		5,0		4,0		1,5	3,5	8,0		6,0	2,5	3,0						
Type of plastic sleeve		A, AG, KARS										ITB-KOT-2020/1115 edition 1														
Fastener (sleeve) diameter [mm]		Ø14					Ø16																			
Type of steel core element		WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, WR, SDD, SDG					HS							WSK, WSKT, WS, WSR, WASL, WKN, WKF, WT, WAST, WR, SDD, SDG					HS							
Steel element diameter [mm]		12					12																			
Effective anchorage depth h _{ef} [mm]		70					80																			
Characteristic pull-out and shear resistance N _{Rk} i V _{Rk} [kN]		Normal concrete ¹⁾					12,0						3,5					13,0					3,5			
		Full solid bricks ²⁾					11,0					3,5					12,0					3,5				

¹⁾ normal weight concrete, class not lower than C20/25, according to norm PN-EN 206+A1:2016

²⁾ full solid bricks, class not lower than 20, according to norm PN-EN 771-1+A1:2015

Essential characteristics of the construction product for the intended use or uses		Declared performance								Remarks	
Characteristic pull-out resistance of ARVEX plastic and metal expansion fasteners with polypropylene plastic sleeves (AT and AGT sleeves) in concrete ¹⁾ and full solid brick ²⁾ substrate and shear resistance											
Type of plastic sleeve		AT, AGT									ITB-KOT-2020/1115 edition 1
Fastener (sleeve) diameter [mm]		Ø6	Ø8	Ø10	Ø12		Ø14				
Type of steel core element		WKN, WKF, WASL, WT, WS, HK, HS, SDD, SDG, WR	WKN, WKF, WASL, WT, WS, HK, HS, SDD, SDG, WR	WKN, WKF, WASL, WT, WS, HK, HS, WSK, HZ, SDD, SDG, WR	WKN, WKF, WASL, WT, WS, HK, HB, SDD, SDG, WR	HS, HZ	WKN, WKF, WASL, WT, WS, HZ, HB, SDD, SDG, HK, WR	HS, HO			
Steel element diameter [mm]		4	5	6	8		10				
Effective anchorage depth h_{ef} [mm]		30	40	50	60		70				
Characteristic pull-out and shear resistance N_{Rk} i V_{Rk} [kN]	Normal concrete ¹⁾	0,2	0,3	0,1	1,5		1,5				
	Full solid bricks ²⁾	0,2	0,2	0,2	3,5	1,5	3,0	2,5			
Durability of expansion connectors											
Durability		Minimum 5µm thick zinc coating on metal elements ensures the durability of the fasteners in accordance with point 2 of the National Technical Assessment ITB-KOT-2020/1115 edition 1								ITB-KOT-2020/1115 edition 1	

¹⁾ normal weight concrete, class not lower than C20/25, according to norm PN-EN 206+A1:2016

²⁾ full solid bricks, class not lower than 20, according to norm PN-EN 771-1+A1:2015

9. The performance of the product identified above is in conformity with all declared performance in clause 8. This national declaration of performance is issued in accordance with the Act on construction products dated 16th April 2004, under the sole responsibility of the manufacturer.

Signed for and on behalf of the manufacturer by:

Jerzy Grobelny, CEO of ARVEX GROBELNY Sp. z o.o.

.....
(name and function)

Krakow, 6th April 2020

.....
(place and date of issue)

PREZES Zarządu
"ARVEX GROBELNY" Sp. z o.o.

(signature)
Jerzy Grobelny