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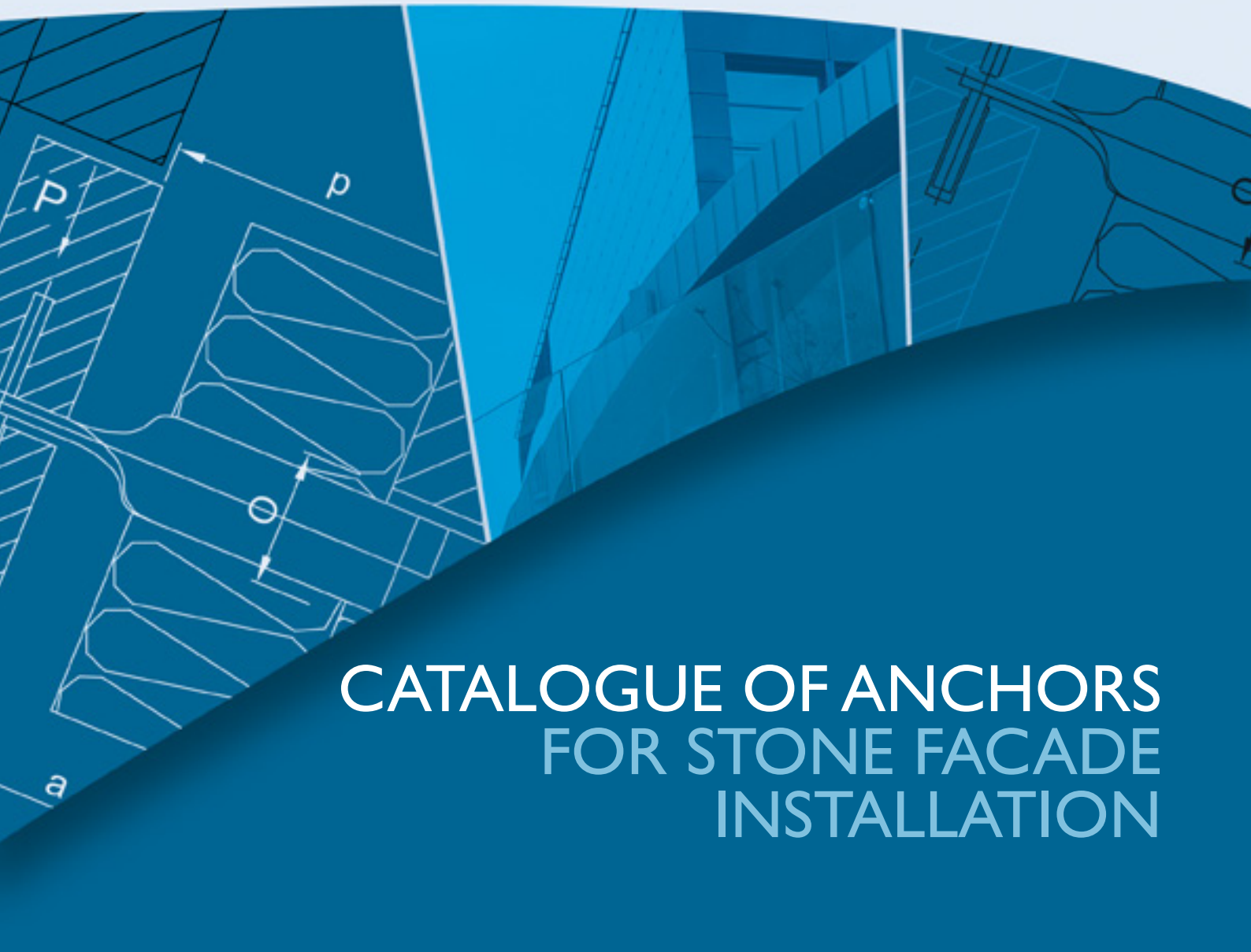


CATALOGUE OF ANCHORS
FOR STONE FACADE INSTALLATION

Ankora

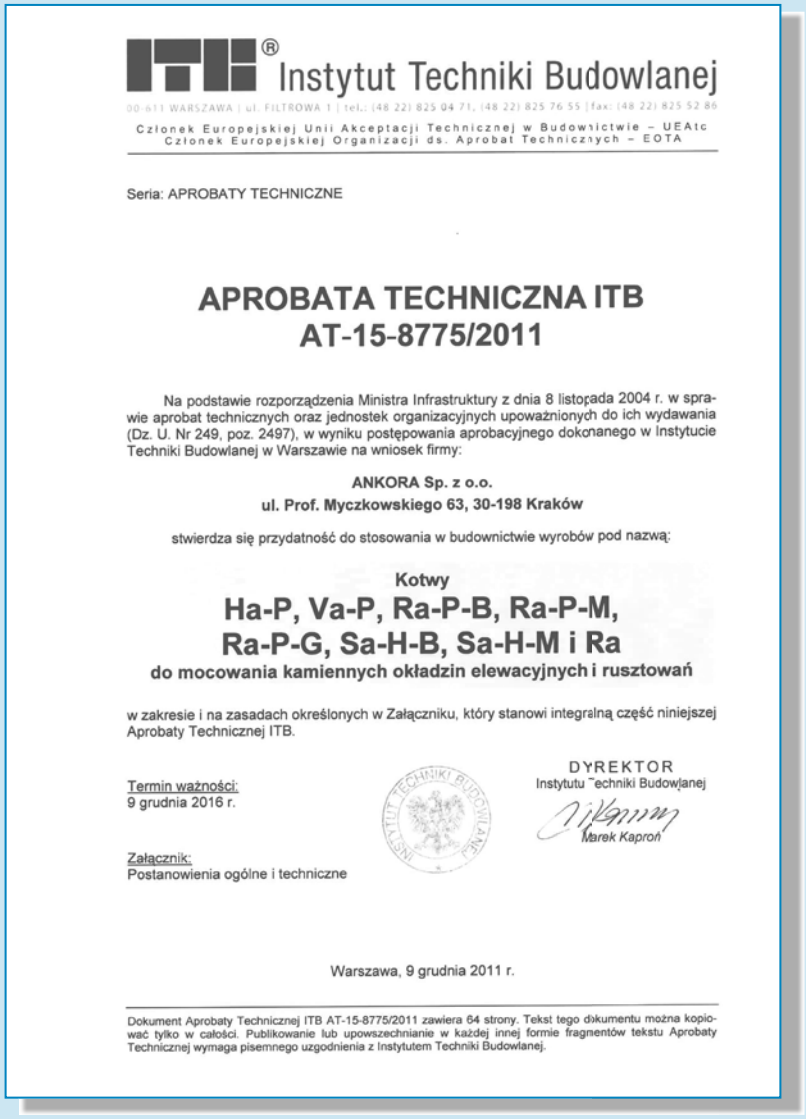
The Ankora company has been established in 2005. In the initial period of its activity, it dealt with real estate agency in the Małopolska Province market. However, it quickly expanded the scope of its activity and, since 2008, has been a contractor of extensive investments in the construction market.

The activity concentrates primarily on projects in the field of so-called small architecture, i.e. implementation of stainless steel railings with glass and wooden elements, glass partition walls as well as implementation of stone facades, fireplaces and floors.

Ankora cooperates with architects and investors in the public construction market as well as in the segment of individual investors, using the services of proven subcontractors.

We put emphasis on the quality and aesthetics of our products. Our activity is supported by highly qualified staff, who have extensive expertise based on many years of practice.

Building Research Institute approval



Instytut Techniki Budowlanej

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Członek Europejskiej Unii Akceptacji Technicznej w Budownictwie – UEAtc
Członek Europejskiej Organizacji ds. Aprobat Technicznych – EOTA

Seria: APROBATY TECHNICZNE

APROBATA TECHNICZNA ITB
AT-15-8775/2011

Na podstawie rozporządzenia Ministra Infrastruktury z dnia 8 listopada 2004 r. w sprawie aprobat technicznych oraz jednostek organizacyjnych upoważnionych do ich wydawania (Dz. U. Nr 249, poz. 2497), w wyniku postępowania aprobacyjnego dokonanego w Instytucie Techniki Budowlanej w Warszawie na wniosek firmy:

ANKORA Sp. z o.o.
ul. Prof. Myczkowskiego 63, 30-198 Kraków

stwierdza się przydatność do stosowania w budownictwie wyrobów pod nazwą:

Kotwy
Ha-P, Va-P, Ra-P-B, Ra-P-M, Ra-P-G, Sa-H-B, Sa-H-M i Ra
do mocowania kamiennych okładzin elewacyjnych i rusztowań

w zakresie i na zasadach określonych w Załączniku, który stanowi integralną część niniejszej Aprobaty Technicznej ITB.

Termin ważności:
9 grudnia 2016 r.

DYREKTOR
Instytutu Techniki Budowlanej
Marek Kaproń

Załącznik:
Postanowienia ogólne i techniczne

Warszawa, 9 grudnia 2011 r.

Dokument Aprobaty Technicznej ITB AT-15-8775/2011 zawiera 64 strony. Tekst tego dokumentu można kopiować tylko w całości. Publikowanie lub upowszechnianie w każdej innej formie fragmentów tekstu Aprobaty Technicznej wymaga pisemnego uzgodnienia z Instytutem Techniki Budowlanej.

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Contents

The catalog includes anchors for dry installation of stone facades.

The description of the intended use, the installation conditions and examples of anchor selection are presented before the individual types are listed.

All anchors and anchors included in our catalog are based on structural calculations. They have been tested and certified by the Building Research Institute.

Ha-p type flat bar anchors

The Ha-P type anchors (Fig. 1) are used to install the natural stone facade cladding both outside and inside buildings. The load-bearing anchors are designed for anchoring in a horizontal grout and carry vertical (slab weight) and horizontal (wind pressure and suction) loads.

These anchors are made of flat bars of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: reinforced concrete min. B20.

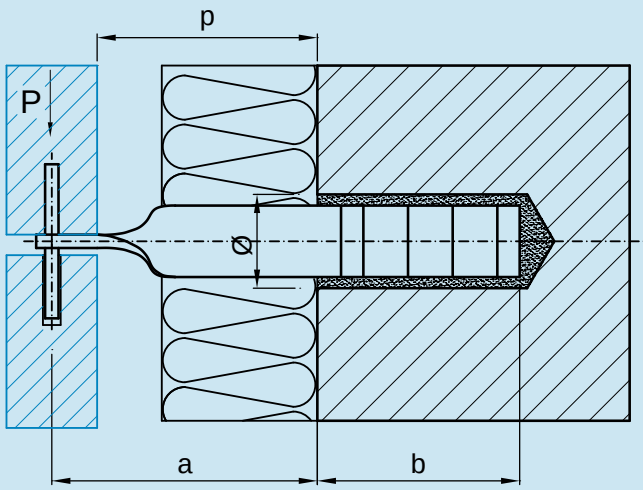


Fig. 1. Ha-P type flat bar anchor

P – anchor load-bearing capacity
a – anchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substrate
t – diameter of the hole in the facade stone
s – stud spacing
L – vertical anchor stand-off distance
p – air gap ≥ 2 cm

The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)
– load-bearing capacity of the anchor (weight of the facade panel)

Example anchor marking:
H20 – horizontal grout anchor for 20 [cm] stand-off distance, anchor load-bearing capacity 380 [n] (38.0 kg)
H22 – horizontal grout anchor for 22 [cm] stand-off distance, anchor load-bearing capacity 1120 [n] (112.0 kg)

NOTE! – For the III, IV, V, VI types anchors, the basic stud spacing s is 80 [mm], it is possible to produce anchors with a different stud spacing. When ordering, please specify the part number, which is the same as the permanent marking on the anchor.

anchors for stand-off distance a=4 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0001	H4	540	8	20	8
0002	H4	680	8	22	8
0003	H4	830	8	24	8
0004	H4	910	8	22	8
0005	H4	990	11	26	8
0006	H4	1160	11	28	8
0007	H4	1350	11	30	8
0008	H4	1550	14	32	8

anchors for stand-off distance a=6 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0009	H6	390	8	20	8
0010	H6	500	8	22	8
0011	H6	610	8	24	8
0012	H6	730	8	26	8
0013	H6	820	8	24	8
0014	H6	990	8	26	8
0015	H6	1170	11	28	8
0016	H6	1360	11	30	8
0017	H6	1490	11	26	8

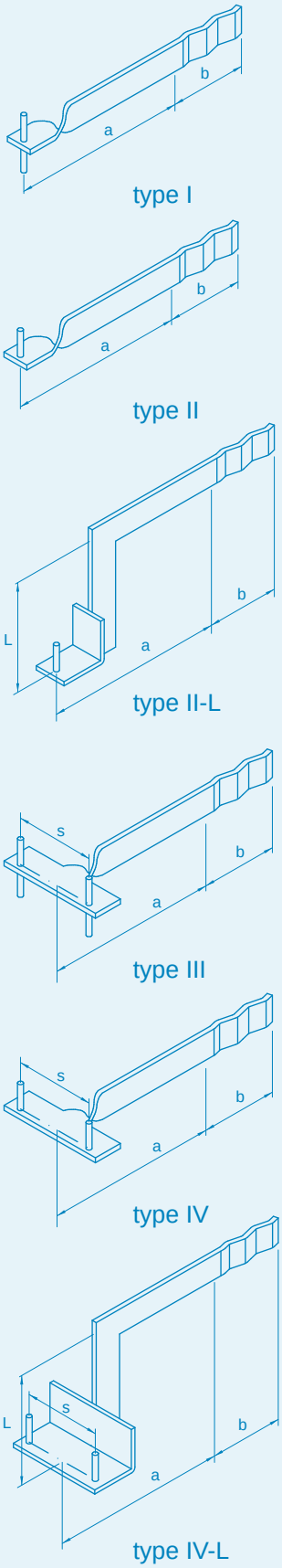
anchors for stand-off distance a=8 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0018	H8	310	8	20	8
0019	H8	420	8	20	8
0020	H8	520	8	20	8
0021	H8	650	8	24	8
0022	H8	780	8	26	8
0023	H8	930	11	28	8
0024	H8	1080	11	30	8
0025	H8	1250	11	32	8
0026	H8	1420	13	34	8

anchors for stand-off distance a=10 [cm]

nr kZ	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0027	H10	250	8	20	8
0028	H10	340	8	20	8
0029	H10	430	8	22	8
0030	H10	530	8	24	8
0031	H10	650	8	26	8
0032	H10	770	8	28	8
0033	H10	900	11	30	8
0034	H10	1130	11	30	8
0035	H10	1300	11	32	8
0036	H10	1490	11	34	8

AVAILABLE Ha-P ANCHORS TYPES



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Ha-p type flat bar anchors

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anchors for stand-off distance a=12 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0037	H12	200	8	20	8
0038	H12	330	8	24	8
0039	H12	450	8	24	8
0040	H12	570	8	24	8
0041	H12	660	11	32	8
0042	H12	770	11	30	8
0043	H12	890	11	32	8
0044	H12	1120	11	32	8
0045	H12	1280	11	34	8
0046	H12	1450	13	36	8

anchors for stand-off distance a=14 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0047	H14	170	8	20	8
0048	H14	290	8	20	8
0049	H14	380	8	22	8
0050	H14	580	8	24	8
0051	H14	710	8	28	8
0052	H14	840	10	30	8
0053	H14	970	10	32	8
0054	H14	1170	10	32	8
0055	H14	1370	10	32	8
0056	H14	1520	13	36	8

anchors for stand-off distance a=16 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0057	H16	135	8	20	8
0058	H16	240	8	24	8
0059	H16	410	8	26	8
0060	H16	490	8	28	8
0061	H16	580	10	30	8
0062	H16	680	10	32	8
0063	H16	860	10	32	8
0064	H16	980	10	34	8
0065	H16	1180	10	34	8
0066	H16	1350	14	36	8
0067	H16	1520	14	38	8

anchors for stand-off distance a=18 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0068	H18	155	8	22	8
0069	H18	260	8	26	8
0070	H18	350	8	24	8
0071	H18	430	8	28	8
0072	H18	540	8	28	8
0073	H18	650	8	30	8
0074	H18	760	11	32	8
0075	H18	880	11	34	8
0076	H18	1060	11	34	8
0077	H18	1210	11	36	8
0078	H18	1530	15	40	8

anchors for stand-off distance a=20 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0079	H20	170	8	22	8
0080	H20	235	8	24	8
0081	H20	380	8	28	8
0082	H20	470	8	28	8
0083	H20	680	11	32	8
0084	H20	820	11	32	8
0085	H20	1020	11	38	8
0086	H20	1220	11	38	8
0087	H20	1450	11	36	8
0088	H20	1620	15	40	8

anchors for stand-off distance a=22 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
89H22	H22	125	8	22	8
90H22	H22	230	8	26	8
91H22	H22	305	8	28	8
92H22	H22	390	8	30	8
93H22	H22	480	11	32	8
94H22	H22	600	11	32	8
95H22	H22	710	11	34	8
96H22	H22	850	11	34	8
97H22	H22	1120	11	38	8
98H22	H22	1300	11	38	8
99H22	H22	1470	15	40	8

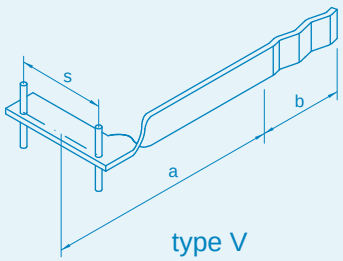
anchors for stand-off distance a=24 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0100	H24	140	8	26	8
0101	H24	235	8	28	8
0102	H24	375	8	32	8
0103	H24	470	8	32	8
0104	H24	580	11	34	8
0105	H24	705	11	36	8
0106	H24	850	11	36	8
0107	H24	1020	11	38	8
0108	H24	1190	11	38	8
0109	H24	1340	15	40	8
0110	H24	1530	15	40	8

anchors for stand-off distance a=26 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0111	H26	185	9	28	8
0112	H26	295	9	30	8
0113	H26	455	9	34	8
0114	H26	555	9	36	8
0115	H26	670	9	36	8
0116	H26	780	9	36	8
0117	H26	940	13	38	8
0118	H26	1110	13	40	8
0119	H26	1310	13	42	8
0120	H26	1530	13	44	8

AVAILABLE Ha-P ANCHORS TYPES



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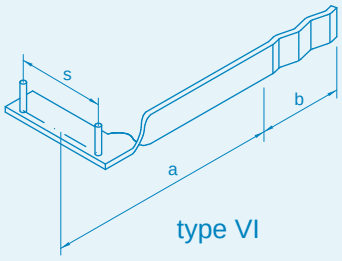
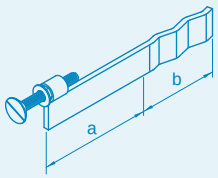


type VI



type VII

Va-p type flat bar anchors

The Va-P type anchors (Fig. 2) are used to install the natural stone facade cladding both outside and inside buildings. The load-bearing anchors are designed for anchoring in a vertical grout and carry vertical (slab weight) and horizontal (wind pressure and suction) loads.
These anchors are made of flat bars of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: reinforced concrete min. B20
NOTE: In case of different dimensions of adjacent panels or panels made of different materials, the weight of the larger panel must be taken into account when selecting the anchor.

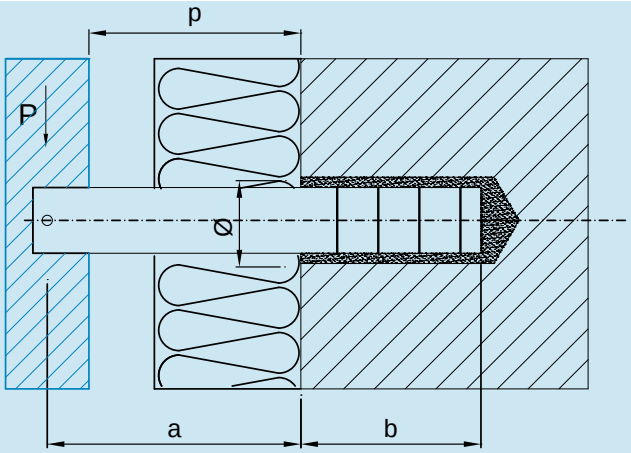


Fig. 2.Va-P type flat bar anchor

P – anchor load-bearing capacity
a – anchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substrate
t – diameter of the hole in the facade stone
s – stud spacing
L – vertical anchor stand-off distance
p – air gap ≥ 2 cm

The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)
– load-bearing capacity of the anchor (weight of the facade panel)

Example anchor marking:
V4 – kotwa do fugi pionowej dla wysięgu 4 [cm], nośność kotwy 990 [N] (99,0 kg)
V12 – kotwa do fugi pionowej dla wysięgu 12 [cm], nośność kotwy 660 [N] (66,0 kg)

UWAGA! – dla kotew typu III, IV, V, VI podstawowy rozstaw trzpieni s wynosi 80 [mm],
istnieje możliwość wykonania kotew z innym rozstawem trzpieni. Przy ewentualnym zamówieniu należy podać kolejny numer katalogowy który jest jednoznaczny z trwałym oznaczeniem na kotwie.

anchors for stand-off distance a=4 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0200	V4	540	8	20	8
0201	V4	680	8	22	8
0202	V4	830	8	24	8
0203	V4	910	8	22	8
0204	V4	990	11	26	8
0205	V4	1160	11	28	8
0206	V4	1350	11	30	8
0207	V4	1550	14	32	8
0208	V4	1760	14	34	8
0209	V4	1970	14	28	8
0210	V4	2080	14	32	8

anchors for stand-off distance a=6 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0211	V6	390	8	20	8
0212	V6	500	8	22	8
0213	V6	610	8	24	8
0214	V6	730	8	26	8
0215	V6	820	8	24	8
0216	V6	990	8	26	8
0217	V6	1170	11	28	8
0218	V6	1360	11	30	8
0219	V6	1490	11	26	8
0220	V6	1700	11	30	8
0221	V6	1970	11	32	8
0222	V6	2050	11	30	8

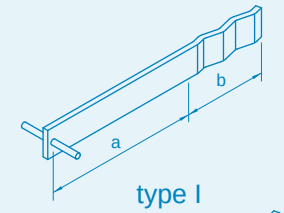
anchors for stand-off distance a=8 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0223	V8	310	8	20	8
0224	V8	420	8	20	8
0225	V8	520	8	20	8
0226	V8	650	8	24	8
0227	V8	780	8	26	8
0228	V8	930	11	28	8
0229	V8	1080	11	30	8
0230	V8	1250	11	32	8
0231	V8	1420	13	34	8
0232	V8	1610	13	36	8
0233	V8	1790	13	34	8
0234	V8	2020	13	36	8
0235	V8	2150	13	34	8

anchors for stand-off distance a=10 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0236	V10	250	8	20	8
0237	V10	340	8	20	8
0238	V10	430	8	22	8
0239	V10	530	8	24	8
0240	V10	650	8	26	8
0241	V10	770	8	28	8
0242	V10	900	11	30	8
0243	V10	1130	11	30	8
0244	V10	1300	11	32	8
0245	V10	1490	11	34	8
0246	V10	1680	13	36	8
0247	V10	1900	13	38	8
0248	V10	2100	13	34	8

AVAILABLE Va-P ANCHOR TYPES



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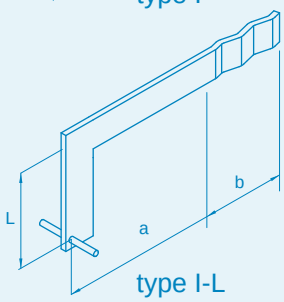

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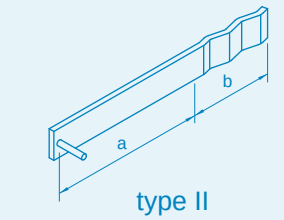
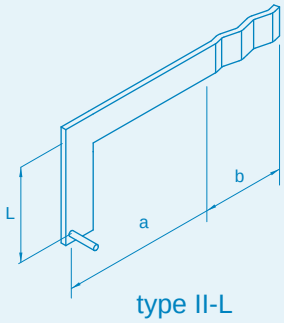


type II



type II-L

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anchors for stand-off distance a=12 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0249	V12	200	8	20	8
0250	V12	330	8	24	8
0251	V12	450	8	24	8
0252	V12	570	8	24	8
0253	V12	660	11	32	8
0254	V12	770	11	30	8
0255	V12	890	11	32	8
0256	V12	1120	11	32	8
0257	V12	1280	11	34	8
0258	V12	1450	13	36	8
0259	V12	1620	13	38	8
0260	V12	1740	13	36	8
0261	V12	1810	13	40	8
0262	V12	1950	13	38	8
0263	V12	2040	13	36	8

anchors for stand-off distance a=14 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0264	V14	170	8	20	8
0265	V14	290	8	20	8
0266	V14	380	8	22	8
0267	V14	580	8	24	8
0268	V14	710	8	28	8
0269	V14	840	10	30	8
0270	V14	970	10	32	8
0271	V14	1170	10	32	8
0272	V14	1370	10	32	8
0273	V14	1520	13	36	8
0274	V14	1710	13	38	8
0275	V14	2010	13	38	8

anchors for stand-off distance a=16 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0276	V16	135	8	20	8
0277	V16	240	8	24	8
0278	V16	410	8	26	8
0279	V16	490	8	28	8
0280	V16	580	10	30	8
0281	V16	680	10	32	8
0282	V16	860	10	32	8
0283	V16	980	10	34	8
0284	V16	1180	10	34	8
0285	V16	1350	14	36	8
0286	V16	1520	14	38	8
0287	V16	1700	14	40	8
0288	V16	1780	14	38	8
0289	V16	1990	14	40	8

anchors for stand-off distance a=18 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0290	V18	155	8	22	8
0291	V18	260	8	26	8
0292	V18	350	8	24	8
0293	V18	430	8	28	8
0294	V18	540	8	28	8
0295	V18	650	8	30	8
0296	V18	760	11	32	8
0297	V18	880	11	34	8
0298	V18	1060	11	34	8
0299	V18	1210	11	36	8
0300	V18	1530	15	40	8
0301	V18	1790	15	40	8
0302	V18	1990	15	42	8
0303	V18	2200	15	44	8

anchors for stand-off distance a=20 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0304	V20	170	8	22	8
0305	V20	235	8	24	8
0306	V20	380	8	28	8
0307	V20	470	8	28	8
0308	V20	680	11	32	8
0309	V20	820	11	32	8
0310	V20	1020	11	38	8
0311	V20	1220	11	38	8
0312	V20	1450	11	36	8
0313	V20	1620	15	40	8
0314	V20	1800	15	42	8
0315	V20	2070	15	42	8
0316	V20	2200	15	46	8

anchors for stand-off distance a=22 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0317	V22	125	8	22	8
0318	V22	230	8	26	8
0319	V22	305	8	28	8
0320	V22	390	8	30	8
0321	V22	480	11	32	8
0322	V22	600	11	32	8
0323	V22	710	11	34	8
0324	V22	850	11	34	8
0325	V22	1120	11	38	8
0326	V22	1300	11	38	8
0327	V22	1470	15	40	8
0328	V22	1640	15	42	8
0329	V22	1880	15	42	8
0330	V22	2090	15	44	8
0331	V22	2200	16	48	8

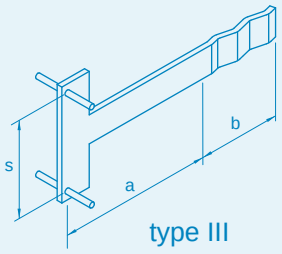
anchors for stand-off distance a=24 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0332	V24	140	8	26	8
0333	V24	235	8	28	8
0334	V24	375	8	32	8
0335	V24	470	8	32	8
0336	V24	580	11	34	8
0337	V24	705	11	36	8
0338	V24	850	11	36	8
0339	V24	1020	11	38	8
0340	V24	1190	11	38	8
0341	V24	1340	15	40	8
0342	V24	1530	15	40	8
0343	V24	1720	15	42	8
0344	V24	1910	15	44	8
0345	V24	2120	15	46	8

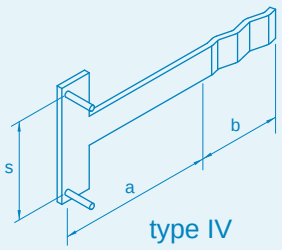
anchors for stand-off distance a=26 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0346	V26	185	9	28	8
0347	V26	295	9	30	8
0348	V26	455	9	34	8
0349	V26	555	9	36	8
0350	V26	670	9	36	8
0351	V26	780	9	36	8
0352	V26	940	13	38	8
0353	V26	1110	13	40	8
0354	V26	1310	13	42	8
0355	V26	1530	13	44	8
0356	V26	1750	16	44	8
0357	V26	1950	16	46	8
0358	V26	2150	16	48	8

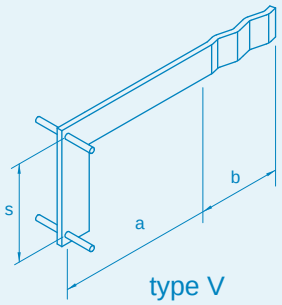
AVAILABLE Va-P ANCHOR TYPES



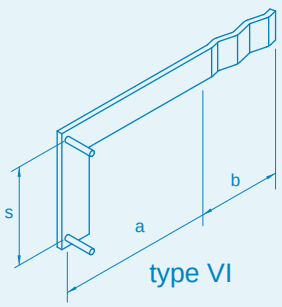
type III



type IV



type V



type VI

Ra-P-B type tubular anchors

Ra-P-B type anchors (Fig. 3) are used to install the natural stone facade cladding both outside and inside buildings. These are load-bearing anchors are designed for anchoring in a vertical or horizontal grout and carry vertical (slab weight) and horizontal (wind pressure and suction) loads.
These anchors are made of round tubes of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: reinforced concrete min. B15.

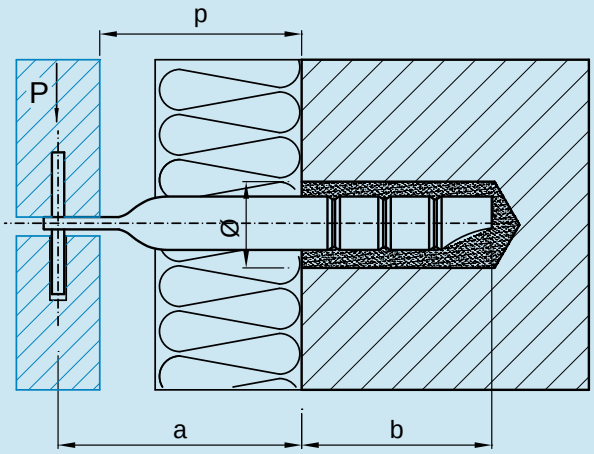


Fig. 3. Ra-P-B type tubular anchor

P – anchor load-bearing capacity
a – nchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substrate
t – diameter of the hole in the facade stone
s – stud spacing
L – vertical anchor stand-off distance
p – air gap ≥ 2 cm

The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)
– load-bearing capacity of the anchor (weight of the facade panel)

Example anchor marking:
R8B – horizontal or vertical grout anchor for 8 [cm] stand-off distance, anchor load-bearing capacity 960 [n] (96 kg)
R16B – horizontal or vertical grout anchor for 16 [cm] stand-off distance, anchor load-bearing capacity 2230 [n] (223 kg)

NOTE! – For the III, IV, V, VI types anchors, the basic stud spacing s is 80 [mm], it is possible to produce anchors with a different stud spacing. When ordering, please specify the part number, which is the same as the permanent marking on the anchor.

anchors for stand-off distance a=4 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0400	R4B	340	8	16	8
0401	R4B	530	8	18	8
0402	R4B	760	8	20	8
0403	R4B	1020	8	22	8
0404	R4B	1180	8	23	8
0405	R4B	1310	8	24	8
0406	R4B	1400	8	23	8
0407	R4B	1640	8	26	8
0408	R4B	1870	8	27	8
0409	R4B	2000	8	28	8

anchors for stand-off distance a=6 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0410	R6B	240	8	16	8
0411	R6B	380	8	18	8
0412	R6B	550	8	20	8
0413	R6B	740	8	22	8
0414	R6B	870	8	23	8
0415	R6B	1030	8	23	8
0416	R6B	1210	8	26	8
0417	R6B	1380	8	27	8
0418	R6B	1650	8	27	8
0419	R6B	1940	8	31	8

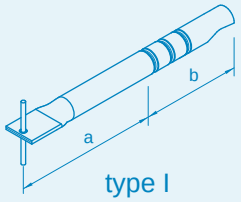
anchors for stand-off distance a=8 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0420	R8B	175	8	16	8
0421	R8B	290	8	18	8
0422	R8B	430	8	20	8
0423	R8B	580	8	22	8
0424	R8B	690	8	23	8
0425	R8B	810	8	23	8
0426	R8B	960	8	26	8
0427	R8B	1100	8	27	8
0428	R8B	1310	8	27	8
0429	R8B	1490	8	27	8
0430	R8B	1790	8	33	8
0431	R8B	1950	8	34	8
0432	R8B	2150	8	33	8

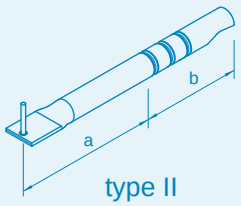
anchors for stand-off distance a=10 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0433	R10B	120	8	16	8
0434	R10B	225	8	18	8
0435	R10B	340	8	20	8
0436	R10B	475	8	22	8
0437	R10B	560	8	23	8
0438	R10B	660	8	23	8
0439	R10B	790	8	26	8
0440	R10B	910	8	27	8
0441	R10B	1110	8	27	8
0442	R10B	1280	8	31	8
0443	R10B	1490	8	33	8
0444	R10B	1800	8	33	8
0445	R10B	2130	8	38	8

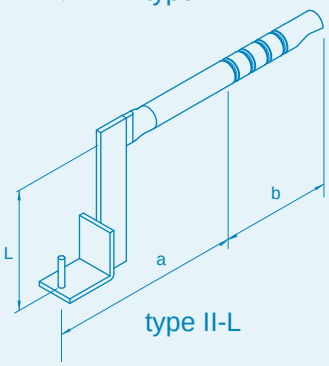
AVAILABLE Ra-P-B ANCHOR TYPES



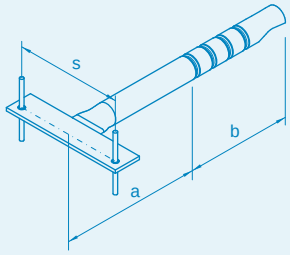
type I



type II



type II-L



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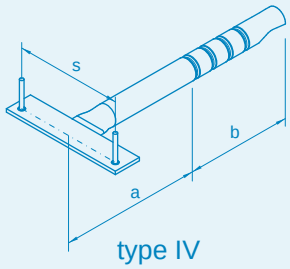
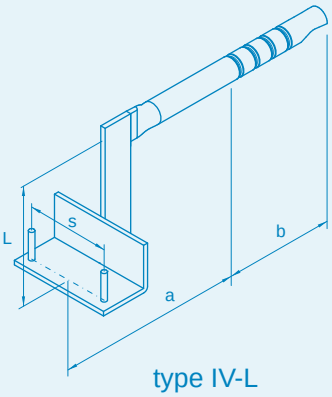


type IV



type IV-L

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Ra-P-B type tubular anchors

ANKORA

anchors for stand-off distance a=12 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0446	R12B	170	8	18	8
0447	R12B	275	8	20	8
0448	R12B	395	8	22	8
0449	R12B	525	8	24	8
0450	R12B	670	8	26	8
0451	R12B	790	8	26	8
0452	R12B	915	8	27	8
0453	R12B	1090	8	31	8
0454	R12B	1310	8	31	8
0455	R12B	1530	8	33	8
0456	R12B	1770	8	33	8
0457	R12B	2040	8	40	8

anchors for stand-off distance a=14 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0458	R14B	125	8	18	8
0459	R14B	220	8	20	8
0460	R14B	320	8	22	8
0461	R14B	390	8	23	8
0462	R14B	570	8	26	8
0463	R14B	670	8	26	8
0464	R14B	790	8	27	8
0465	R14B	950	8	31	8
0466	R14B	1110	8	33	8
0467	R14B	1340	8	33	8
0468	R14B	1540	8	33	8
0469	R14B	1690	8	36	8
0470	R14B	1960	8	36	8
0471	R14B	2170	8	40	8

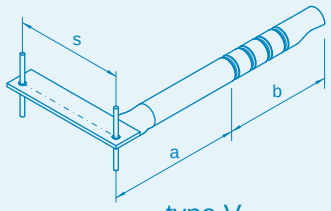
anchors for stand-off distance a=16 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0472	R16B	170	8	20	8
0473	R16B	265	8	22	8
0474	R16B	375	8	24	8
0475	R16B	490	8	26	8
0476	R16B	620	8	28	8
0477	R16B	770	8	27	8
0478	R16B	980	8	33	8
0479	R16B	1180	8	33	8
0480	R16B	1420	8	38	8
0481	R16B	1590	8	40	8
0482	R16B	1730	8	36	8
0483	R16B	1920	8	40	8
0484	R16B	2230	9	40	8

anchors for stand-off distance a=18 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0485	R18B	135	8	20	8
0486	R18B	220	8	22	8
0487	R18B	310	8	23	8
0488	R18B	425	8	26	8
0489	R18B	545	8	28	8
0490	R18B	595	8	27	8
0491	R18B	740	8	31	8
0492	R18B	870	8	33	8
0493	R18B	1050	8	33	8
0494	R18B	1210	8	33	8
0495	R18B	1420	8	40	8
0496	R18B	1730	8	40	8
0497	R18B	2010	9	40	8
0498	R18B	2120	9	40	8

anchors for stand-off distance a=20 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0499	R20B	175	8	22	8
0500	R20B	265	8	24	8
0501	R20B	370	8	26	8
0502	R20B	480	8	28	8
0503	R20B	580	8	27	8
0504	R20B	660	8	31	8
0505	R20B	780	8	33	8
0506	R20B	940	8	33	8
0507	R20B	1080	8	33	8
0508	R20B	1290	8	40	8
0509	R20B	1560	8	40	8
0510	R20B	1820	9	40	8
0511	R20B	2080	8	48	8

anchors for stand-off distance a=22 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0512	R22B	185	8	23	8
0513	R22B	315	8	26	8
0514	R22B	420	8	28	8
0515	R22B	500	8	27	8
0516	R22B	590	8	31	8
0517	R22B	700	8	33	8
0518	R22B	840	8	33	8
0519	R22B	1050	8	38	8
0520	R22B	1270	8	36	8
0521	R22B	1420	8	40	8
0522	R22B	1660	8	40	8
0523	R22B	1910	8	48	8
0524	R22B	2150	9	44	8

AVAILABLE Ra-P-B ANCHOR TYPES



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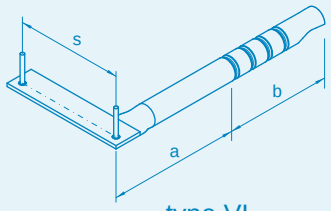
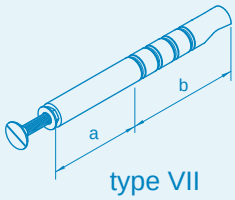


type VI



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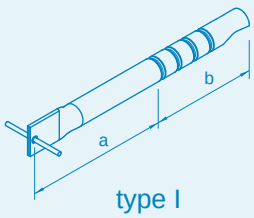
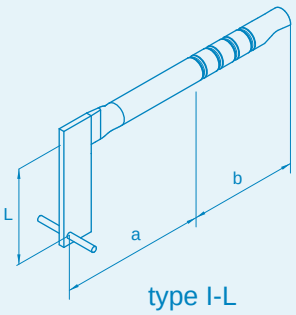
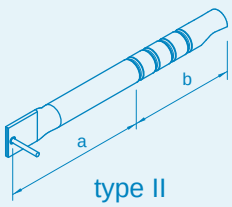


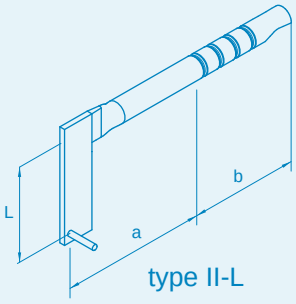
type I



type I-L



type II



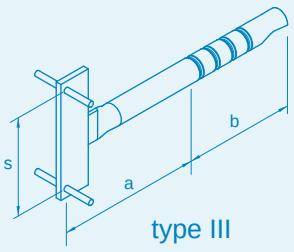
type II-L

Ra-P-B type tubular anchors

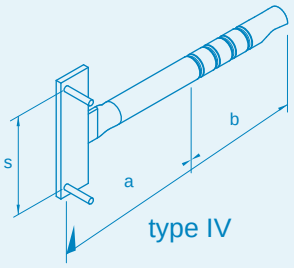
anchors for stand-off distance a=24 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0525	R24B	165	8	23	8
0526	R24B	275	8	26	8
0527	R24B	385	8	27	8
0528	R24B	505	8	31	8
0529	R24B	595	8	31	8
0530	R24B	700	8	34	8
0531	R24B	830	8	36	8
0532	R24B	990	8	36	8
0533	R24B	1150	8	36	8
0534	R24B	1300	8	40	8
0535	R24B	1510	8	40	8
0536	R24B	1590	9	40	8
0537	R24B	1760	8	48	8
0538	R24B	1980	9	44	8
0539	R24B	2150	9	48	8

anchors for stand-off distance a=26 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0540	R26B	130	8	23	8
0541	R26B	235	8	27	8
0542	R26B	305	8	27	8
0543	R26B	395	8	31	8
0544	R26B	505	8	33	8
0545	R26B	610	8	33	8
0546	R26B	715	8	36	8
0547	R26B	850	8	36	8
0548	R26B	990	8	40	8
0549	R26B	1200	8	40	8
0550	R26B	1390	8	40	8
0551	R26B	1630	8	48	8
0552	R26B	1820	9	44	8
0553	R26B	2060	9	48	8

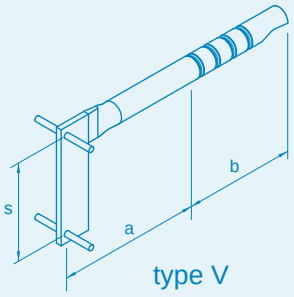
AVAILABLE Ra-P-B ANCHOR TYPES



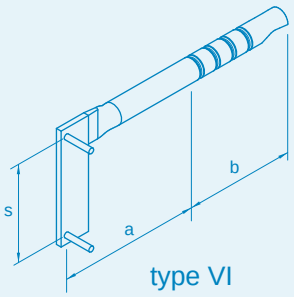
type III



type IV



type V



type VI

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Ra-P-M type tubular anchors

Ra-P-M type anchors (Fig. 4) are used to install the natural stone facade cladding both outside and inside buildings. These are load-bearing anchors are designed for anchoring in a vertical or horizontal grout and carry vertical (slab weight) and horizontal (wind pressure and suction) loads.
These anchors are made of round tubes of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: walls made of ceramic materials and silicate masonry elements group 1, mortar class m5. Masonry elements class 10 according to Pn-B-03002:2007 and concrete min. B15.

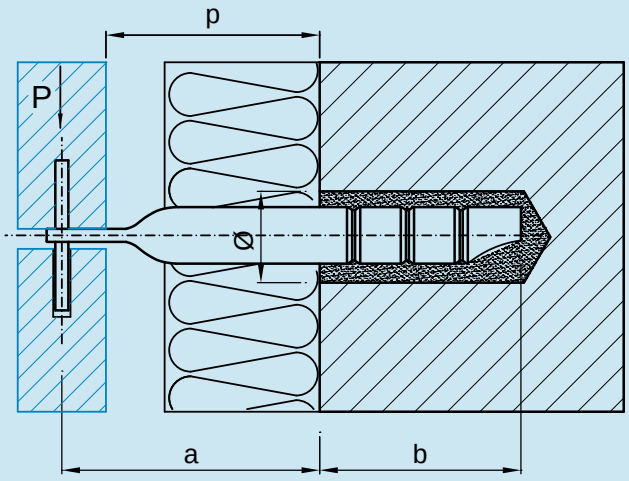


Fig. 4. Ra-P-M type tubular anchor

P – anchor load-bearing capacity
a – anchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substrate
t – diameter of the hole in the facade stone
s – stud spacing
L – vertical anchor stand-off distance
p – air gap ≥ 2 cm

The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)
– load-bearing capacity of the anchor (weight of the facade panel)

Example anchor marking:
R4M – horizontal or vertical grout anchor for 4 [cm] stand-off distance, anchor load-bearing capacity 340 [n] (34 kg)
R14M – horizontal or vertical grout anchor for 14 [cm] stand-off distance, anchor load-bearing capacity 1690 [n] (169 kg)

NOTE! – For the III, IV, V, VI types anchors, the basic stud spacing s is 80 [mm], it is possible to produce anchors with a different stud spacing. When ordering, please specify the part number, which is the same as the permanent marking on the anchor.

anchors for stand-off distance a=4 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0600	R4M	340	8	16	8
0601	R4M	530	8	18	8
0602	R4M	760	8	20	8
0603	R4M	1020	10	22	8
0604	R4M	1180	10	23	8
0605	R4M	1310	10	24	8
0606	R4M	1400	12	23	8
0607	R4M	1640	12	26	8
0608	R4M	1870	12	27	8
0609	R4M	2000	12	28	8

anchors for stand-off distance a=6 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0610	R6M	240	8	16	8
0611	R6M	380	8	18	8
0612	R6M	550	8	20	8
0613	R6M	740	8	22	8
0614	R6M	870	10	23	8
0615	R6M	1030	10	23	8
0616	R6M	1210	10	26	8
0617	R6M	1380	12	27	8
0618	R6M	1650	12	27	8
0619	R6M	1940	12	31	8

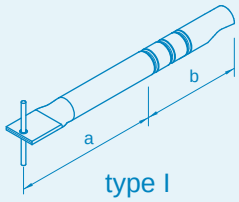
anchors for stand-off distance a=8 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0620	R8M	175	8	16	8
0621	R8M	290	8	18	8
0622	R8M	430	8	20	8
0623	R8M	580	8	22	8
0624	R8M	690	8	23	8
0625	R8M	810	10	23	8
0626	R8M	960	10	26	8
0627	R8M	1100	10	27	8
0628	R8M	1310	13	27	8
0629	R8M	1490	13	27	8
0630	R8M	1790	13	33	8
0631	R8M	1950	13	34	8
0632	R8M	2150	13	33	8

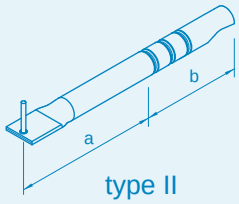
anchors for stand-off distance a=10 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0633	R10M	120	8	16	8
0634	R10M	225	8	18	8
0635	R10M	340	8	20	8
0636	R10M	475	8	22	8
0637	R10M	560	8	23	8
0638	R10M	660	10	23	8
0639	R10M	790	10	26	8
0640	R10M	910	10	27	8
0641	R10M	1110	13	27	8
0642	R10M	1280	13	31	8
0643	R10M	1490	13	33	8
0644	R10M	1800	13	33	8
0645	R10M	2130	13	38	8

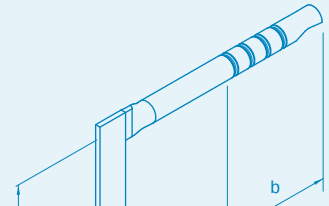
AVAILABLE Ra-P-M ANCHOR TYPES



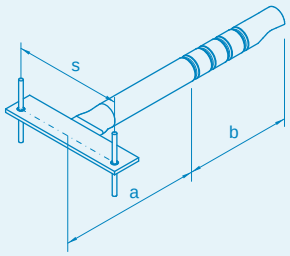
type I



type II



type II-L



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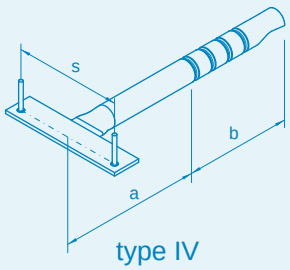
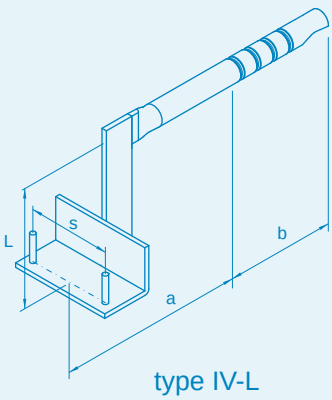


type IV



type IV-L

Ra-P-M type tubular anchors

anchors for stand-off distance a=12 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0646	R12M	170	8	18	8
0647	R12M	275	8	20	8
0648	R12M	395	8	22	8
0649	R12M	525	8	24	8
0650	R12M	670	10	26	8
0651	R12M	790	10	26	8
0652	R12M	915	10	27	8
0653	R12M	1090	10	31	8
0654	R12M	1310	13	31	8
0655	R12M	1530	13	33	8
0656	R12M	1770	13	33	8
0657	R12M	2040	13	40	8

anchors for stand-off distance a=14 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0658	R14M	125	8	18	8
0659	R14M	220	8	20	8
0660	R14M	320	8	22	8
0661	R14M	390	8	23	8
0662	R14M	570	10	26	8
0663	R14M	670	10	26	8
0664	R14M	790	10	27	8
0665	R14M	950	10	31	8
0666	R14M	1110	12	33	8
0667	R14M	1340	12	33	8
0668	R14M	1540	14	33	8
0669	R14M	1690	14	36	8
0670	R14M	1960	14	36	8
0671	R14M	2170	14	40	8

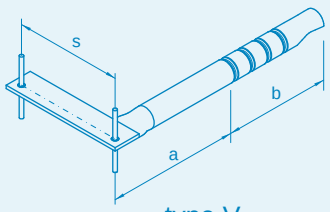
anchors for stand-off distance a=16 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0672	R16M	170	8	20	8
0673	R16M	265	8	22	8
0674	R16M	375	8	24	8
0675	R16M	490	8	26	8
0676	R16M	620	10	28	8
0677	R16M	770	10	27	8
0678	R16M	980	10	33	8
0679	R16M	1180	12	33	8
0680	R16M	1420	12	38	8
0681	R16M	1590	12	40	8
0682	R16M	1730	15	36	8
0683	R16M	1920	15	40	8
0684	R16M	2230	15	40	8

anchors for stand-off distance a=18 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0685	R18M	135	8	20	8
0686	R18M	220	8	22	8
0687	R18M	310	8	23	8
0688	R18M	425	8	26	8
0689	R18M	545	10	28	8
0690	R18M	595	10	27	8
0691	R18M	740	10	31	8
0692	R18M	870	10	33	8
0693	R18M	1050	13	33	8
0694	R18M	1210	13	33	8
0695	R18M	1420	13	40	8
0696	R18M	1730	13	40	8
0697	R18M	2010	15	40	8
0698	R18M	2120	15	40	8

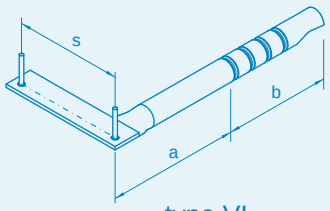
anchors for stand-off distance a=20 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0699	R20M	175	8	22	8
0700	R20M	265	8	24	8
0701	R20M	370	8	26	8
0702	R20M	480	8	28	8
0703	R20M	580	10	27	8
0704	R20M	660	10	31	8
0705	R20M	780	10	33	8
0706	R20M	940	12	33	8
0707	R20M	1080	12	33	8
0708	R20M	1290	12	40	8
0709	R20M	1560	14	40	8
0710	R20M	1820	14	40	8
0711	R20M	2080	14	48	8

anchors for stand-off distance a=22 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0712	R22M	185	8	23	8
0713	R22M	315	8	26	8
0714	R22M	420	8	28	8
0715	R22M	500	10	27	8
0716	R22M	590	10	31	8
0717	R22M	700	10	33	8
0718	R22M	840	13	33	8
0719	R22M	1050	13	38	8
0720	R22M	1270	13	36	8
0721	R22M	1420	13	40	8
0722	R22M	1660	15	40	8
0723	R22M	1910	15	48	8
0724	R22M	2150	15	44	8

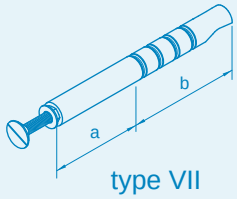
AVAILABLE Ra-P-M ANCHOR TYPES



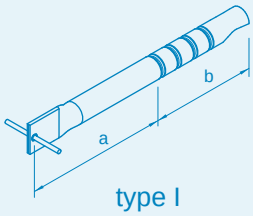
type V



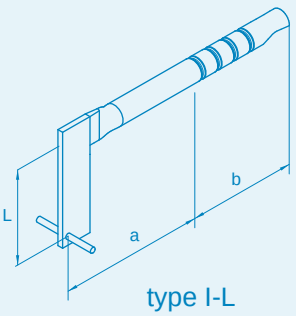
type VI



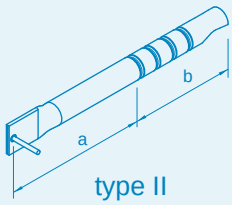
type VII



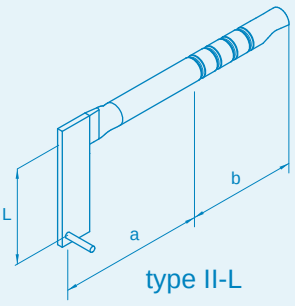
type I



type I-L



type II



type II-L

Ankora Ltd., ul. Piłsudskiego 23, 32-050 Skawina
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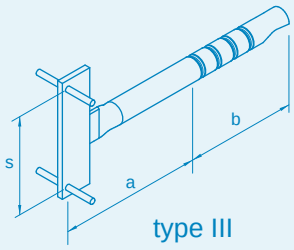
e-mail: biruo@ankora.com.pl | www.ankora.com.pl

Ra-P-M type tubular anchors

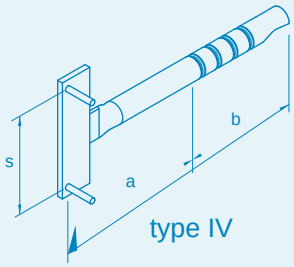
anchors for stand-off distance a=24 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0725	R24M	165	8	23	8
0726	R24M	275	8	26	8
0727	R24M	385	8	27	8
0728	R24M	505	10	31	8
0729	R24M	595	10	31	8
0730	R24M	700	10	34	8
0731	R24M	830	10	36	8
0732	R24M	990	13	36	8
0733	R24M	1150	13	36	8
0734	R24M	1300	13	40	8
0735	R24M	1510	15	40	8
0736	R24M	1590	15	40	8
0737	R24M	1760	15	48	8
0738	R24M	1980	15	44	8
0739	R24M	2150	15	48	8

anchors for stand-off distance a=26 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0740	R26M	130	8	23	8
0741	R26M	235	8	27	8
0742	R26M	305	8	27	8
0743	R26M	395	8	31	8
0744	R26M	505	10	33	8
0745	R26M	610	10	33	8
0746	R26M	715	10	36	8
0747	R26M	850	12	36	8
0748	R26M	990	12	40	8
0749	R26M	1200	12	40	8
0750	R26M	1390	15	40	8
0751	R26M	1630	15	48	8
0752	R26M	1830	15	44	8
0753	R26M	2060	15	48	8

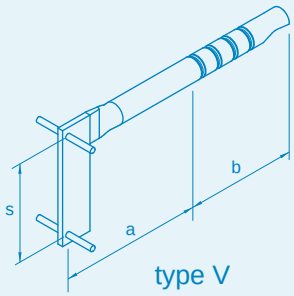
AVAILABLE Ra-P-M ANCHOR TYPES



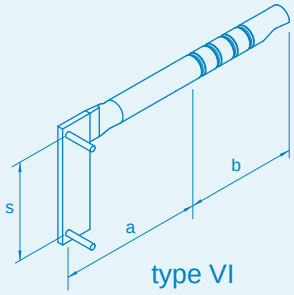
type III



type IV



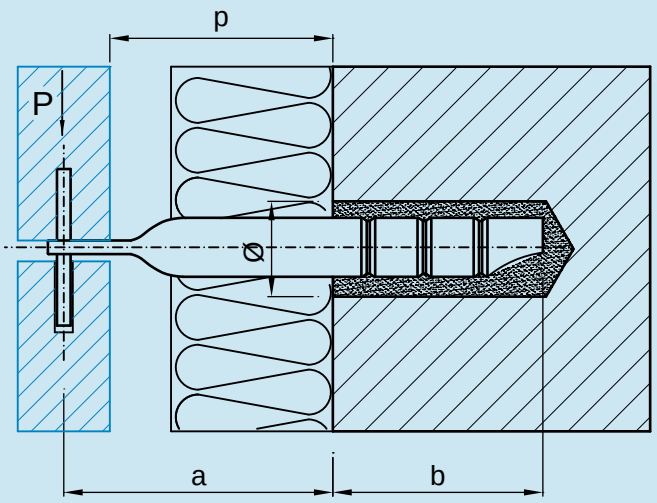
type V



type VI

Ra-P-G type tubular anchors

Ra-P-G type anchors (Fig. 5) are used to install the natural stone facade cladding both outside and inside buildings. These are load-bearing anchors are designed for anchoring in a vertical or horizontal grout and carry vertical (slab weight) and horizontal (wind pressure and suction) loads.
These anchors are made of round tubes of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: masonry elements made of autoclaved cellular concrete according to Pn-B-03002:2007 and concrete min. B15.



Rys. 5. Kotwa rurowa typu Ra-P-G

P – anchor load-bearing capacity
a – anchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substratet
t – diameter of the hole in the facade stone
s – stud spacing
L – vertical anchor stand-off distance
p – air gap ≥ 2 cm

The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)
– load-bearing capacity of the anchor (weight of the facade panel)

Example anchor marking:
R8G – horizontal or vertical grout anchor for 8 [cm] stand-off distance, anchor load-bearing capacity 1210 [n] (121 kg)
R18G – horizontal or vertical grout anchor for 18 [cm] stand-off distance, anchor load-bearing capacity 810 [n] (81 kg)

NOTE! – For the III, IV, V, VI types anchors, the basic stud spacing s is 80 [mm], it is possible to produce anchors with a different stud spacing. When ordering, please specify the part number, which is the same as the permanent marking on the anchor.

anchors for stand-off distance a=4 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0800	R4G	340	15	16	8
0801	R4G	550	15	22	8
0802	R4G	700	15	26	8
0803	R4G	850	15	31	8
0804	R4G	1100	15	40	8
0805	R4G	1500	15	48	8

anchors for stand-off distance a=6 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0806	R6G	240	15	16	8
0807	R6G	500	15	22	8
0808	R6G	630	15	26	8
0809	R6G	750	15	31	8
0810	R6G	1050	15	40	8
0811	R6G	1350	15	48	8

anchors for stand-off distance a=8 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0812	R8G	175	15	16	8
0813	R8G	450	15	22	8
0814	R8G	570	15	26	8
0815	R8G	700	15	31	8
0816	R8G	970	15	40	8
0817	R8G	1210	15	48	8

anchors for stand-off distance a=10 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0818	R10G	120	15	16	8
0819	R10G	400	15	22	8
0820	R10G	520	15	26	8
0821	R10G	650	15	31	8
0822	R10G	880	15	40	8
0823	R10G	1110	15	48	8

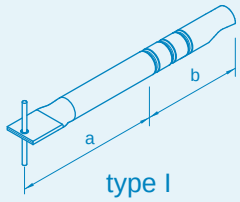
anchors for stand-off distance a=12 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0824	R12G	380	15	22	8
0825	R12G	480	15	26	8
0826	R12G	600	15	31	8
0827	R12G	800	15	40	8
0828	R12G	1020	15	48	8

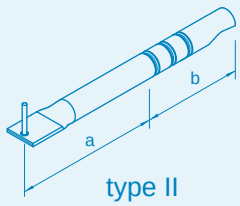
anchors for stand-off distance a=14 [cm]

part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0829	R14G	320	15	22	8
0830	R14G	440	15	26	8
0831	R14G	550	15	31	8
0832	R14G	750	15	40	8
0833	R14G	950	15	48	8

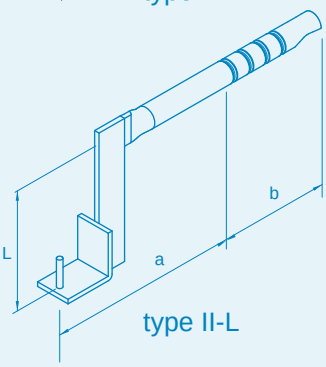
AVAILABLE Ra-P-G ANCHOR TYPES



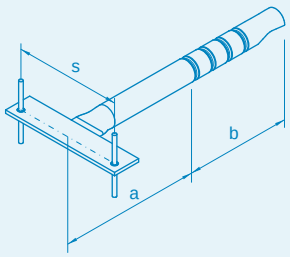
type I



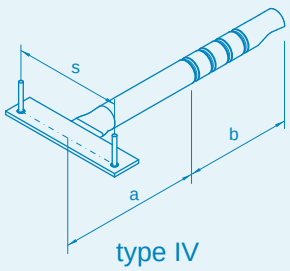
type II



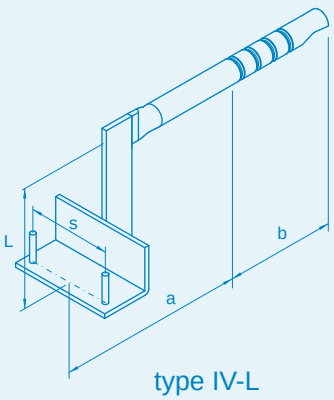
type II-L



type III



type IV



type IV-L

cd. na str. 15

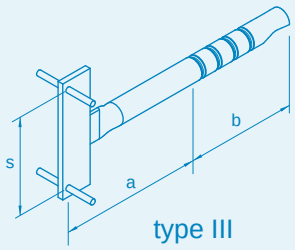
Ra-P-G type tubular anchors

ANKORA

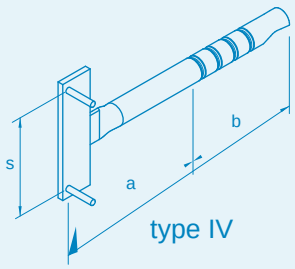
anchors for stand-off distance a=16 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0834	R16G	265	15	22	8
0835	R16G	400	15	26	8
0836	R16G	500	15	31	8
0837	R16G	700	15	40	8
0838	R16G	880	15	48	8

anchors for stand-off distance a=18 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0829	R18G	370	15	26	8
0840	R18G	470	15	31	8
0841	R18G	650	15	40	8
0842	R18G	810	15	48	8

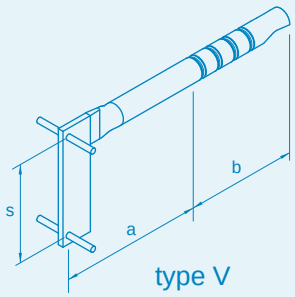
anchors for stand-off distance a=20 [cm]					
part no.	anchor no.	P [N]	b [cm]	Ø [mm]	t [mm]
0843	R20G	450	15	31	8
0844	R20G	600	15	40	8
0845	R20G	750	15	48	8



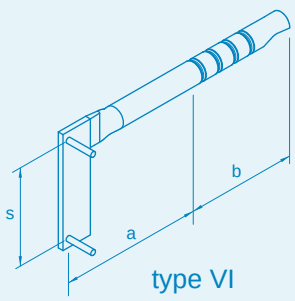
type III



type IV

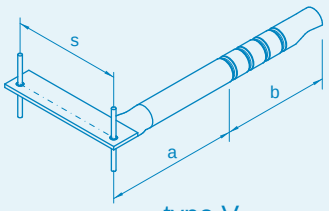


type V

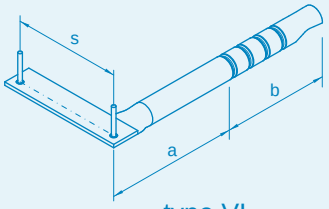


type VI

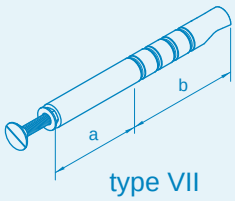
AVAILABLE Ra-P-G ANCHOR TYPES



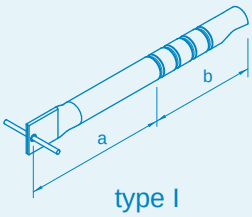
type V



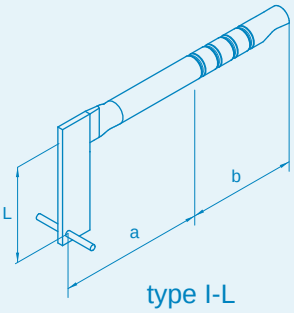
type VI



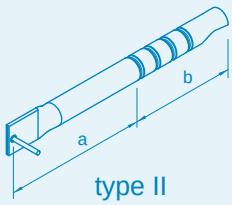
type VII



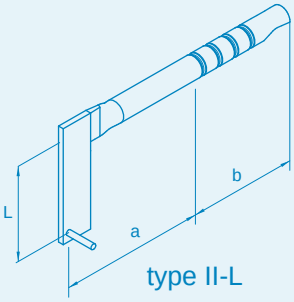
type I



type I-L



type II



type II-L

Sa-H-B type stabilizing anchors

Sa-H-B type anchors (Fig. 6) are used to install the natural stone facade cladding both outside and inside buildings. These are stabilizing anchors intended for anchoring in vertical or horizontal grout, carrying only horizontal loads (wind pressure and suction).
These anchors are made of round bars of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: reinforced concrete min. B15.

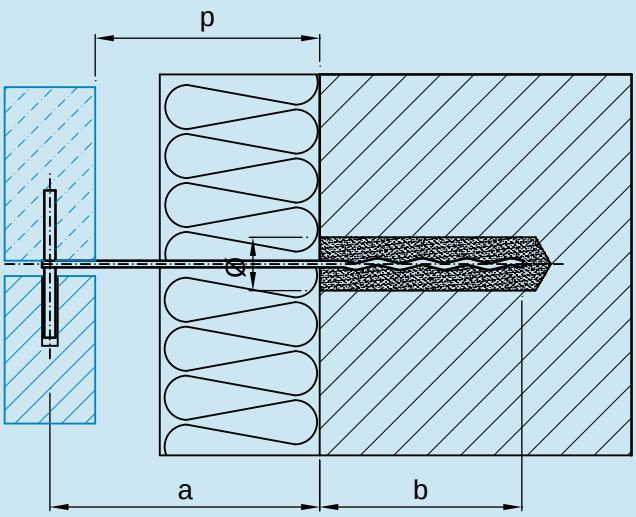


Fig. 6. Ra-H-B type stabilizing anchor

a – anchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substratet
t – diameter of the hole in the facade stone
s – stud spacing
p – air gap ≥ 2 cm

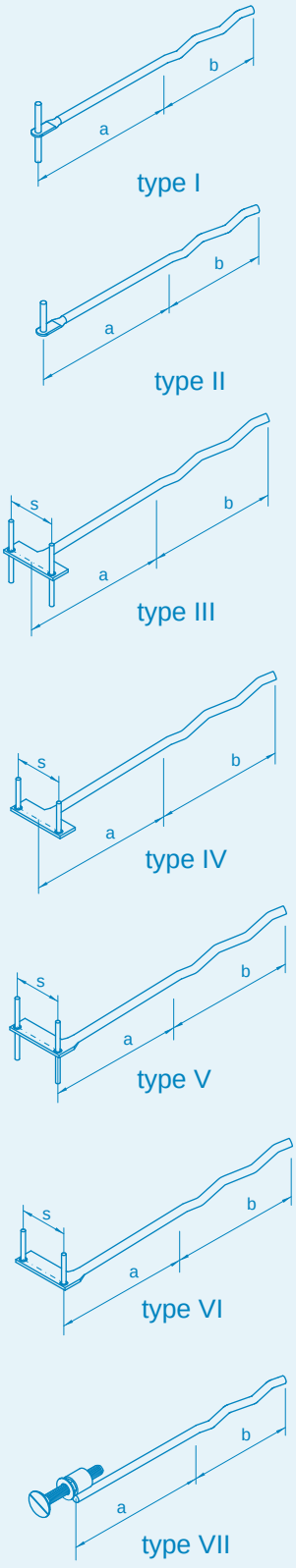
The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)

Example anchor marking:
S8B – anchor for horizontal or vertical grout for 8 [cm] stand-off distance
S24B – anchor for horizontal or vertical grout for 24 [cm] stand-off distance

NOTE! – For the III, IV, V, VI types anchors, the basic stud spacing s is 80 [mm], it is possible to produce anchors with a different stud spacing. When ordering, please specify the part number, which is the same as the permanent marking on the anchor.

part no.	anchor no.	a [cm]	b [cm]	Ø [mm]	t [mm]
0900	S4B	4	8	14	8
0901	S6B	6	8	14	8
0902	S8B	8	8	14	8
0903	S10B	10	8	14	8
0904	S12B	12	8	14	8
0905	S14B	14	8	14	8
0906	S16B	16	8	14	8
0907	S18B	18	8	14	8
0908	S20B	20	8	14	8
0909	S22B	22	8	14	8
0910	S24B	24	8	14	8
0911	S26B	26	8	14	8

AVAILABLE Sa-H-B ANCHOR TYPES



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Ra-H-M type stabilizing anchors

Sa-H-M type anchors (Fig. 7) are used to install the natural stone facade cladding both outside and inside buildings. These are stabilizing anchors intended for anchoring in a vertical or horizontal grout, carrying only horizontal loads (wind pressure and suction).
These anchors are made of round bars of steel: a2 1H18n9t and 0H18n9t, a4 1H17n13m2t and 0H17n10m. They should be embedded by means of quick-setting mortar – substrate: walls made of ceramic materials and silicate masonry elements group 1, mortar class m5. Masonry elements class 10 according to Pn-B-03002:2007 and concrete min. B15.

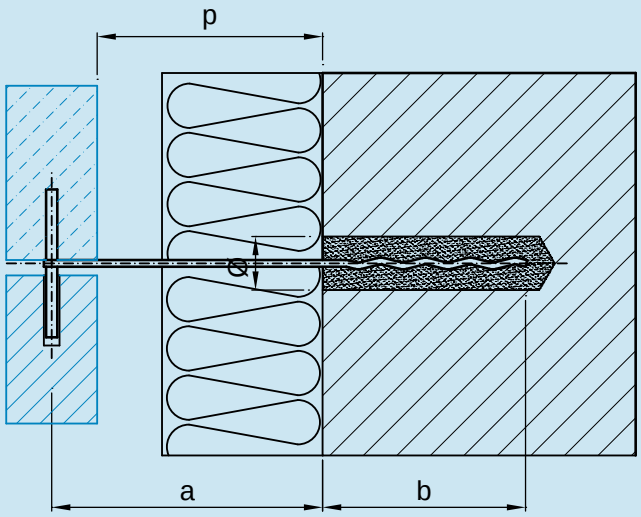


Fig. 7. Ra-H-M type stabilizing anchor

a – anchor stand-off distance
b – depth of embedding the anchor in the substrate
Ø – minimum diameter of the hole in the substratet
t – diameter of the hole in the facade stone
s – stud spacing
p – air gap ≥ 2 cm

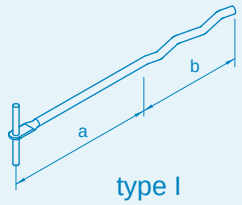
The basic parameters to choose the right anchor are:
– the substrate, in which the anchor will be embedded
– anchor stand-off distance (from the ground face to the axis of the facade panel)

Example anchor marking:
4S10M – anchor for horizontal or vertical grout for 10 [cm] stand-off distance
9S20M – anchor for horizontal or vertical grout for 20 [cm] stand-off distance

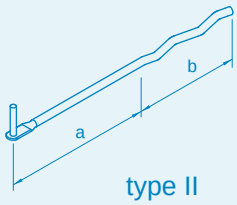
NOTE! – For the III, IV, V, VI types anchors, the basic stud spacing is 80 [mm], it is possible to produce anchors with different stud spacing. When ordering, please specify the part number, which is the same as the permanent marking on the anchor.

part no.	anchor no.	a [cm]	b [cm]	Ø [mm]	t [mm]
0950	S4M	4	10	14	8
0951	S6M	6	10	14	8
0952	S8M	8	10	14	8
0953	S10M	10	10	14	8
0954	S12M	12	10	14	8
0955	S14M	14	10	14	8
0956	S16M	16	10	14	8
0957	S18M	18	10	14	8
0958	S20M	20	10	14	8
0959	S22M	22	10	14	8
0960	S24M	24	10	14	8
0961	S26M	26	10	14	8

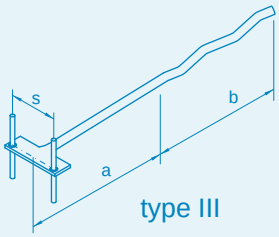
AVAILABLE Ra-H-M ANCHOR TYPES



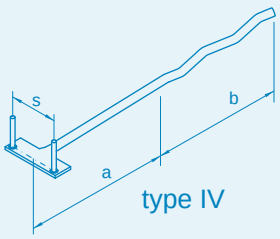
type I



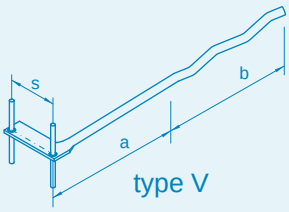
type II



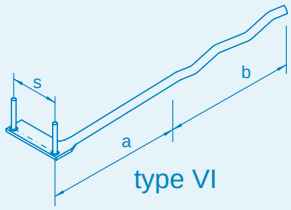
type III



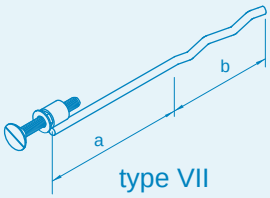
type IV



type V



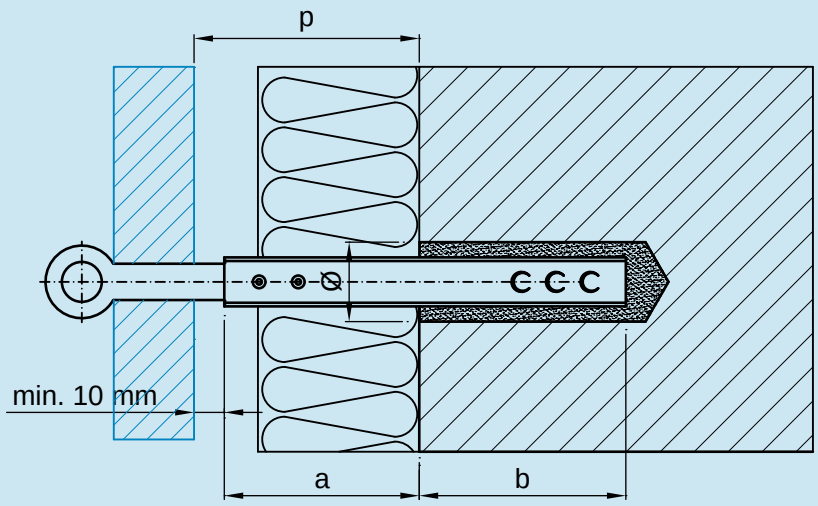
type VI

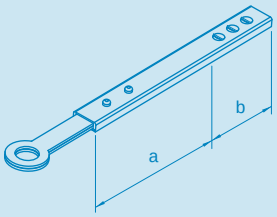


type VII

Ra type scaffolding anchors

Application - horizontal grout, substrate: solid brick, concrete min. B20





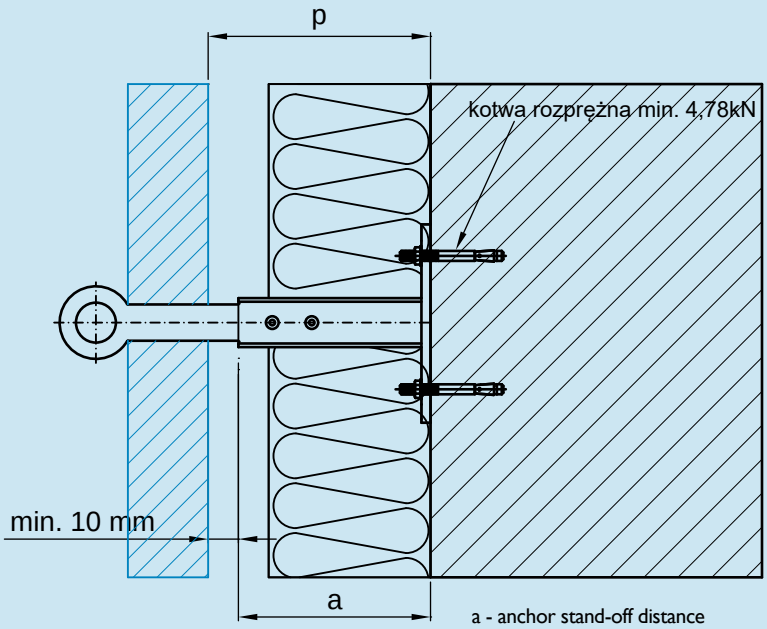
a - anchor stand-off distance
b - depth of embedding the anchor in the substrate
Ø - minimum diameter of the hole in the substrate
p - air gap ≥ 2 cm

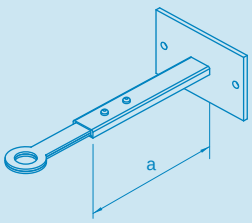
part no.	anchor no.	a [cm]	b [cm]	Ø [mm]
1001	R8	8	10	30
1002	R10	10	10	30
1003	R12	12	10	30
1004	R14	14	10	30
1005	R16	16	10	30
1006	R18	18	10	30
1007	R20	20	10	30
1008	R22	22	10	30
1009	R24	24	10	30

The selection of the number of anchors depends on the technical conditions of the facility and the wind zone.
Horizontal force bearing capacity H- 4.78kn

R1a type scaffolding anchors

Application - horizontal grout, substrate: solid brick, concrete min. B20



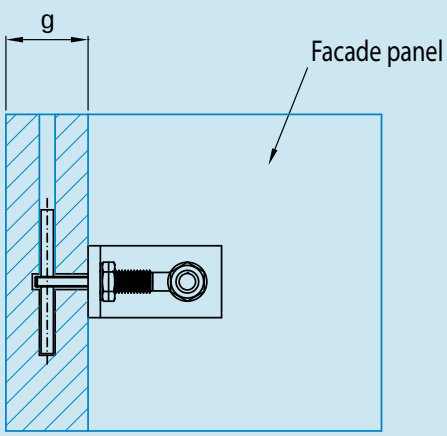


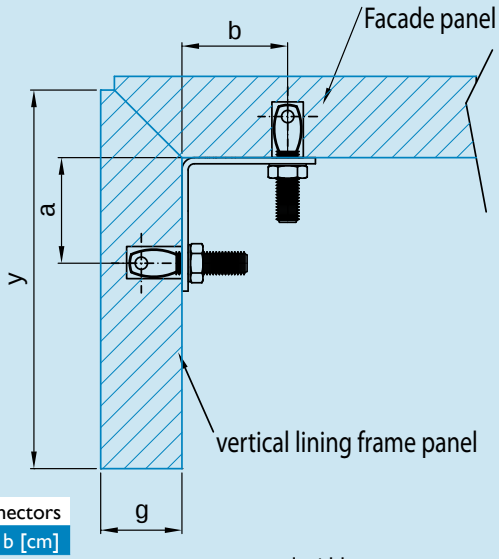
a - anchor stand-off distance
Ø - diameter of the hole in the substrate under the expansion anchor
p - air gap ≥ 2 cm

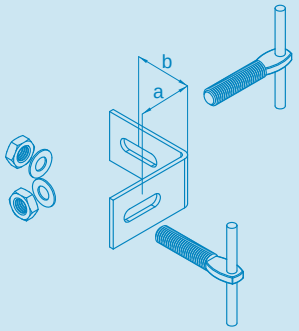
part no.	anchor no.	a [cm]	Ø [mm]
1010	R18	8	8
1011	R110	10	8
1012	R112	12	8
1013	R114	14	8
1014	R116	16	8
1015	R118	18	8
1016	R120	20	8
1017	R122	22	8
1018	R124	24	8

The selection of the number of anchors depends on the technical conditions of the facility and the wind zone.
Horizontal force bearing capacity H- 4.78kn

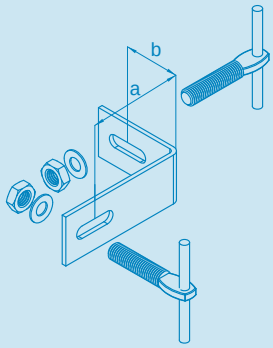
Connectors for LR type equilateral vertical panels
Connectors for LNR type non equilateral vertical panels







LR



LNR

Equilateral connectors		
anchor no.	a [cm]	b [cm]
LR-4	4	4
LR-6	6	6
LR-8	8	8

Non equilateral connectors		
anchor no.	a [cm]	b [cm]
LNR6/4	6	4
LNR8/4	8	4
LNR8/6	8	6
LNR10/6	10	6

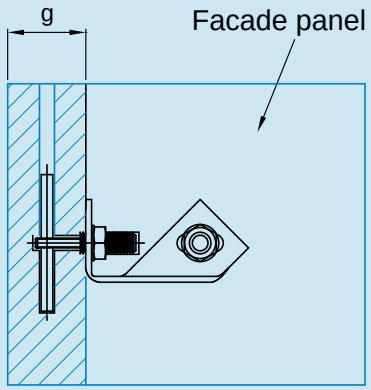
y – panel width
g – plate thickness
a, b – connector arm stand-off distances

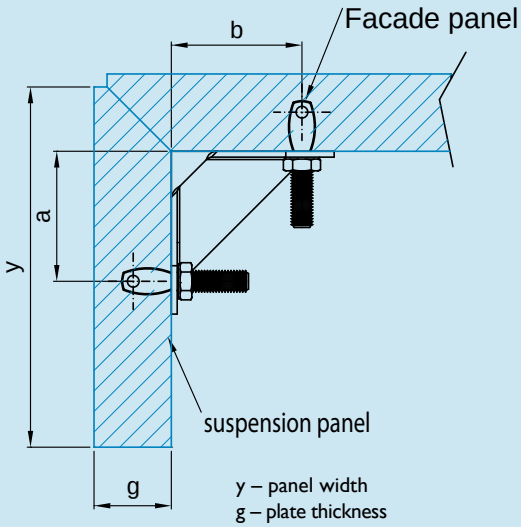
Recommended parameters for selection of connectors

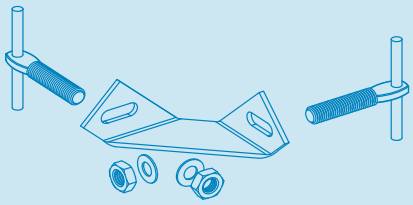
y [cm]	a [cm]
od 0 do 16	4
od 16 do 20	6
od 20 do24	8

NOTE! – in case of tightened plates above 24 [cm], independent anchoring should be used.

Load-bearing connectors for suspension or stabilizing connectors for LS type lining frame panels







LS

anchor no.	a [cm]	b [cm]
LS4	4	4
LS6	6	6
LS8	8	8

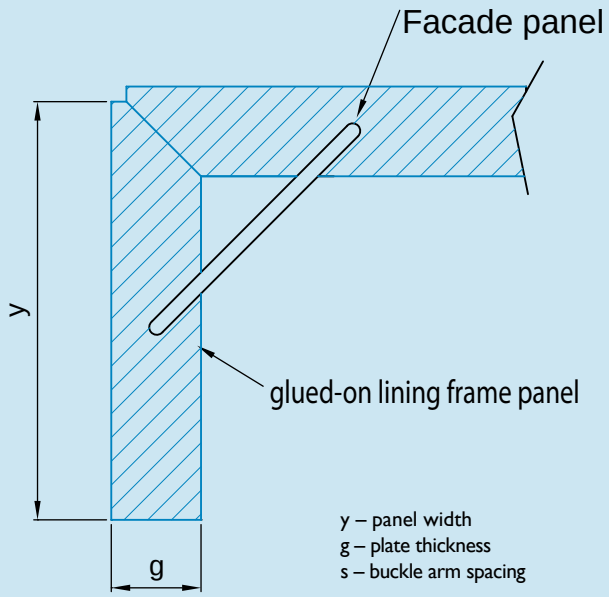
y – panel width
g – plate thickness
a, b – connector arm stand-off distances

Recommended parameters for selection of connectors

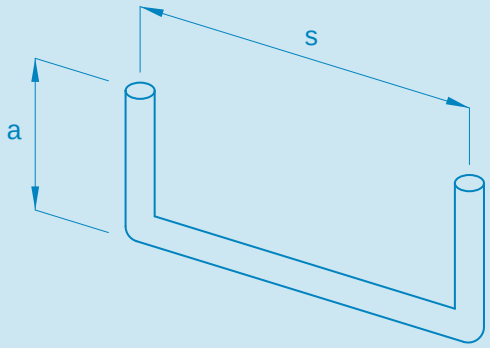
y [cm]	a [cm]
od 0 do 16	4
od 16 do 20	6
od 20 do24	8

NOTE! – in case of tightened plates above 24 [cm], independent anchoring should be used.

KL clamping buckle



y – panel width
g – plate thickness
s – buckle arm spacing



KL clamping buckle		
anchor no.	a [cm]	s [cm]
KL6	3	6
KL8	3	8
KL10	3	10
KL12	3	12
KL14	3	14

NOTE! – in case of lining frame panels above 24 [cm], independent anchoring should be used.

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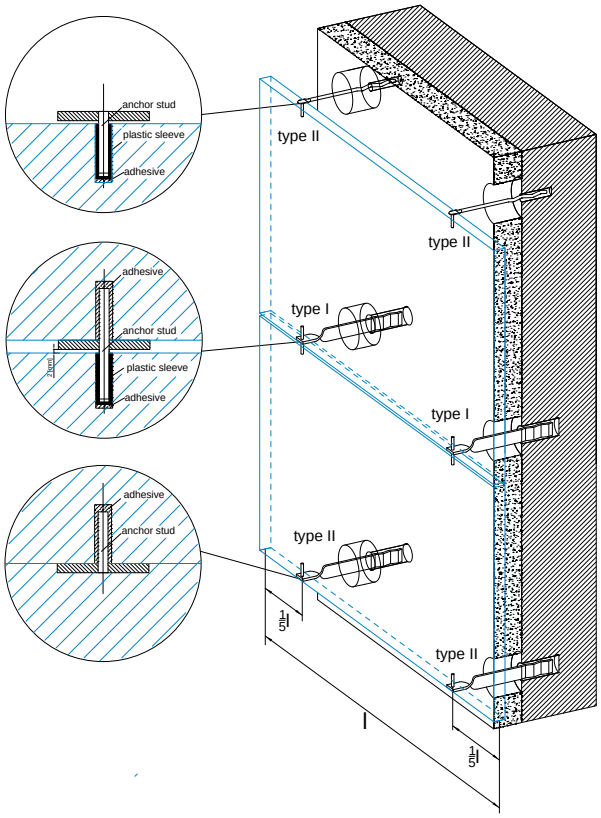
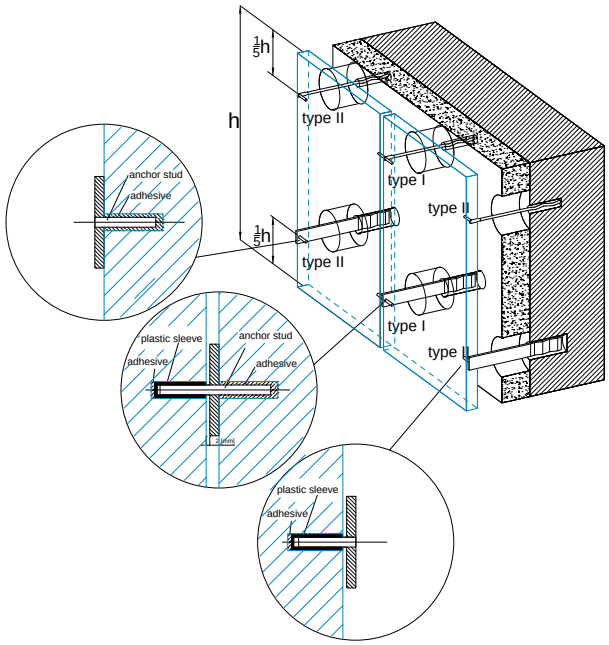
EXAMPLES OF FACADE INSTALLATION SOLUTIONS ON THE ANKORA ANCHORS

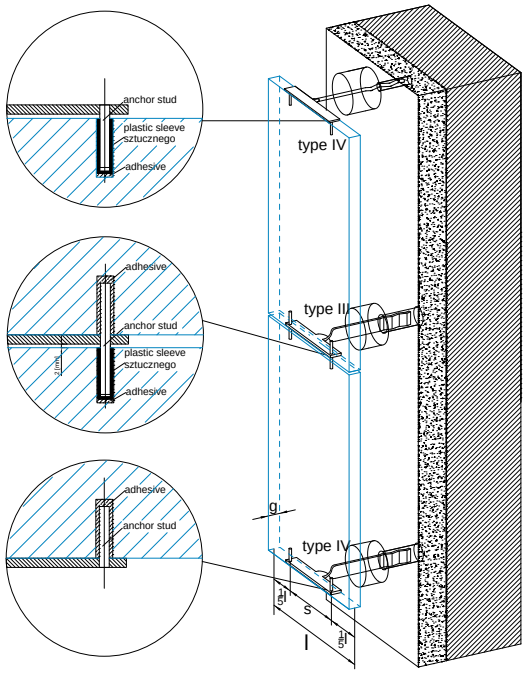
Anchoring in a horizontal grout on type I, II anchors



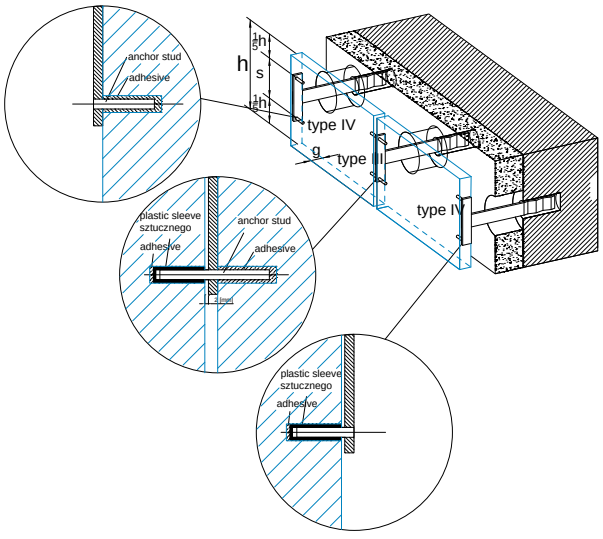
Anchoring in a vertical grout on type I, II anchors



Anchoring in a horizontal grout on type III, IV anchors

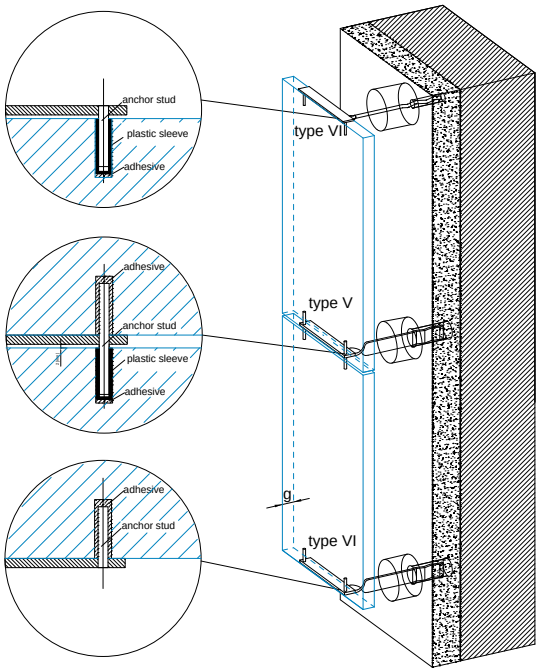


Anchoring in a vertical grout on type III, IV anchors

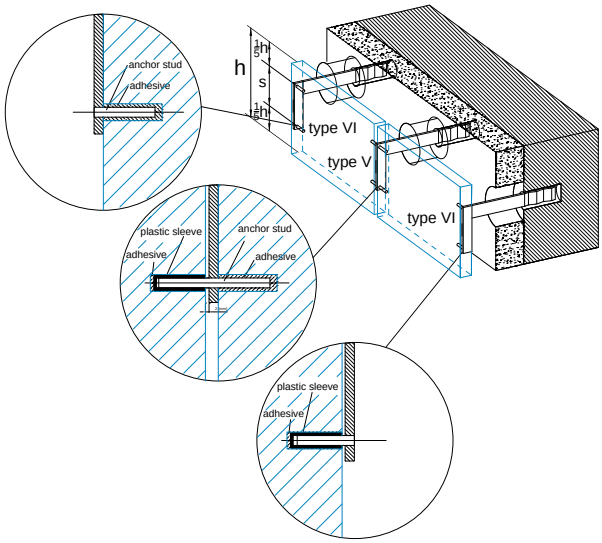


EXAMPLES OF FACADE INSTALLATION SOLUTIONS ON THE ANKORA ANCHORS

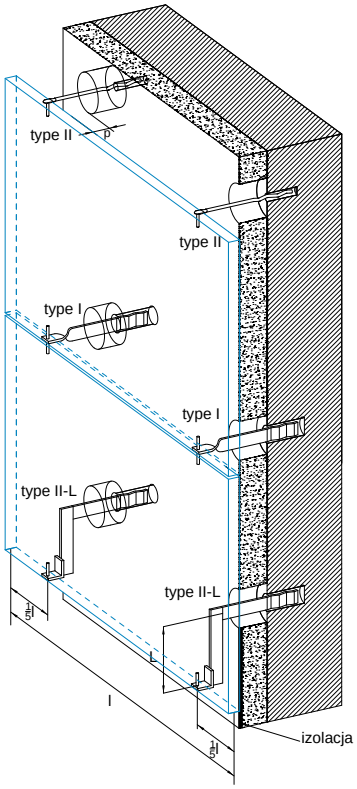
Anchoring in a horizontal grout on type V, VI anchors



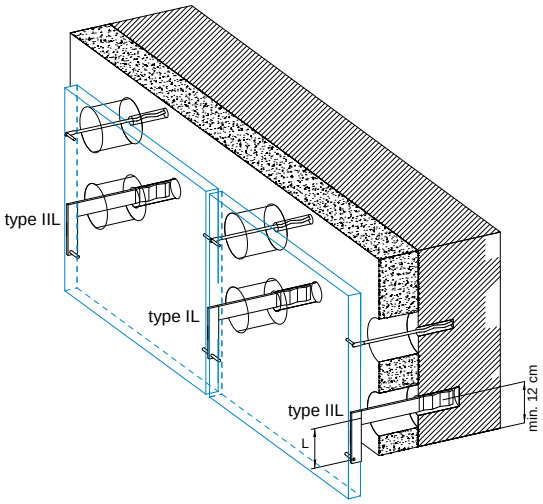
Anchoring in a vertical grout on type V, VI anchors



Anchoring in a horizontal grout on type I- L, II-L anchors



Anchoring in a vertical grout on type I-L, II-L anchors



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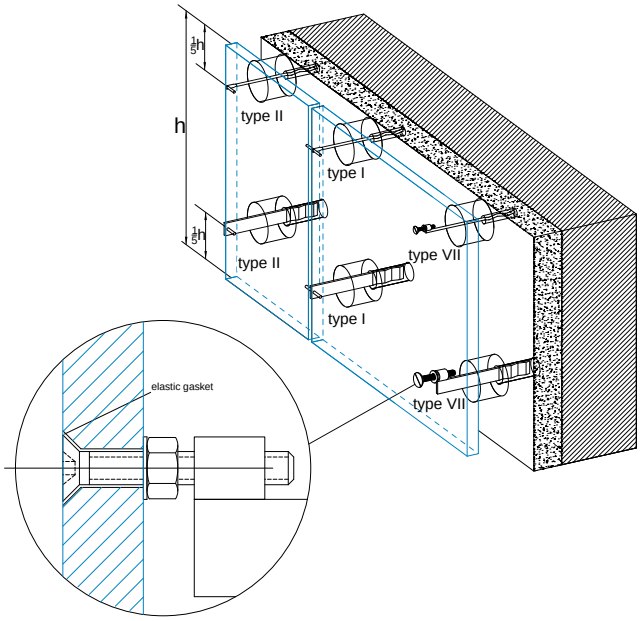
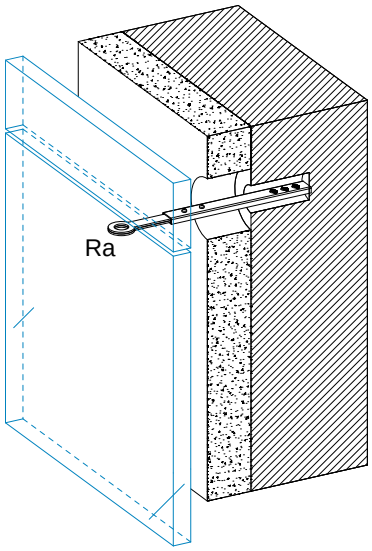
EXAMPLES OF FACADE INSTALLATION SOLUTIONS ON THE ANKORA ANCHORS

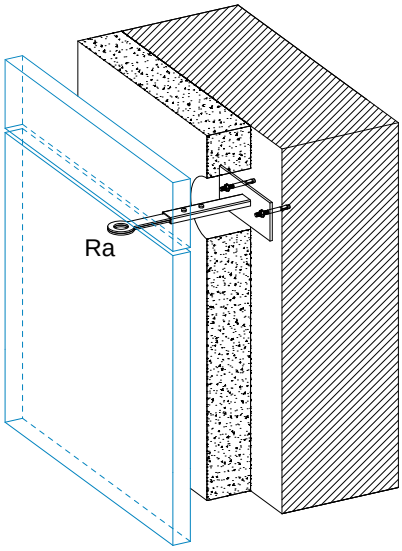
Anchoring with type VII anchors



Scaffolding anchor Ra



Scaffolding anchor R1a



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