Vorpa **VE.A**

Steel anchor

non cracked concrete

products group

VE.A

* **VE.A INOX A2**

* **VE.A INOX A4**

VE.A ZG
Geomet

* **VE.A M**
VE.A M INOX A2
with internl thread

Suitable for
- concrete

To fix
- steel beams
- sections
- plates
- heavy structural works
- plants engineering
- railings and balustrades
- gates

ISTITUTO GIORDANO

Test report available

A4 INOX 316 *

A2 INOX 304

HOT DIPPED GALVANIZED

product information

Characteristics
- through steel anchor composed of steel pin, nut, washer and expansion clip
- the version with internal thread VE.A M to be used with bolts of any metrical length
- high load values and fast setting
- VE.A ZG for outdoor use and damp conditions
- reduced hole diameter
- suitable for through-setting applications in concrete
- thread diameter and hole diameter are the same
- reinforced anchor's head to avoid damaging the thread during the installation

Installation
- through-setting anchor

Suggestion for use
- choose the right size of the anchor according to the load
- always check load bearing capacity values in the table
- respect the installation data
- **clean the hole before the installation**

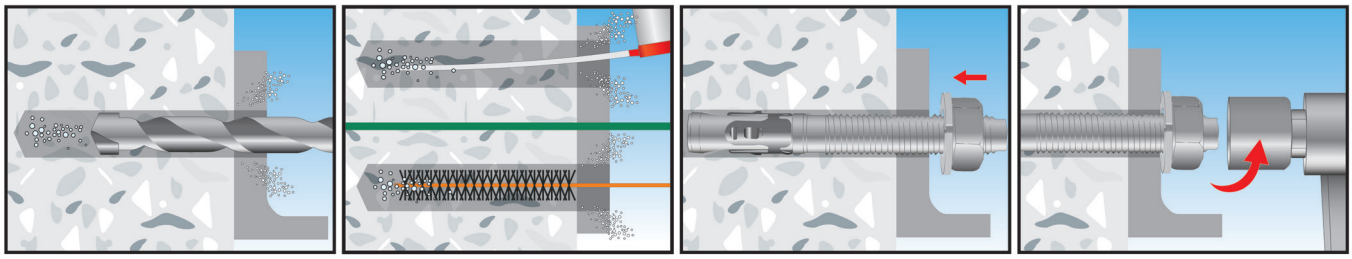
Examples of applications

Vorpa **VE.A**

Steel anchor

non cracked concrete

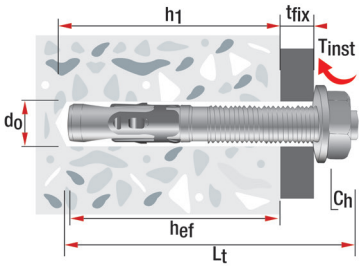
installation sequence



product code and technical data

VE.A

Code	Description	L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
1601	VE.A 6/5-50	50	6	35	6	10	10
1594	VE.A 6/7-55	55	6	40	7	10	10
1602	VE.A 6/10-65	65	6	50	10	10	10
1625	VE.A 6/25-80	80	6	50	25	10	10
1603	VE.A 6/40-100	100	6	55	40	10	10
1639	VE.A 6/70-130	130	6	55	70	10	10
1621	VE.A 8/1-50	50	8	40	1	20	13
1604	VE.A 8/5-55	55	8	40	5	20	13
51604	VE.A 8/10-60	60	8	40	10	20	13
1605	VE.A 8/15-75	75	8	55	15	20	13
1618	VE.A 8/25-90	90	8	55	25	20	13
1606	VE.A 8/50-115	115	8	55	50	20	13
51605	VE.A 8/70-130	130	8	55	70	20	13
51606	VE.A 8/100-160	160	8	55	100	20	13
51607	VE.A 8/120-180	180	8	55	120	20	13
51609	VE.A 8/140-200	200	8	55	140	20	13
51630	VE.A 8/180-240	240	8	55	180	20	13
51631	VE.A 8/220-280	280	8	55	220	20	13
51632	VE.A 8/260-320	320	8	55	260	20	13
1607	VE.A 10/5-65	65	10	50	5	45	17
51608	VE.A 10/10-80	80	10	60	10	45	17
1608	VE.A 10/20-90	90	10	60	20	45	17
5626	VE.A 10/30-100	100	10	60	30	45	17
1609	VE.A 10/50-120	120	10	60	50	45	17
1614	VE.A 10/70-140	140	10	60	70	45	17
1641	VE.A 10/100-170	170	10	60	100	45	17
1643	VE.A 10/140-210	210	10	60	140	45	17
1610	VE.A 12/10-75	75	12	55	10	65	19
1626	VE.A 12/15-90	90	12	65	15	65	19
5611	VE.A 12/20-100	100	12	80	20	65	19
1611	VE.A 12/20-110	110	12	80	20	65	19
1640	VE.A 12/30-120	120	12	80	30	65	19
1612	VE.A 12/50-145	145	12	85	50	65	19
1627	VE.A 12/65-160	160	12	85	65	65	19
1613	VE.A 12/85-180	180	12	85	85	65	19
1637	VE.A 12/100-200	200	12	85	100	65	19
1687	VE.A 14/10-100	100	14	85	10	85	22
5621	VE.A 14/15-110	110	14	85	15	85	22
5622	VE.A 14/30-145	145	14	110	30	85	22



L_t = Anchor length
h_{ef} = Effective anchorage depth
h_1 = Min. hole depth
d_o = Hole diameter
t_{fix} = Fixture thickness
T_{inst} = Torque
Ch = Spanner

Follows on the next page

Vorpa **VE.A**

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non cracked concrete

product code and technical data

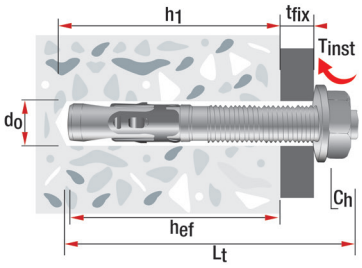
VE.A

Code	Description	L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
5623	VE.A 14/60-175	175	14	105	60	85	22
1629	VE.A 16/5-90	90	16	70	5	115	24
1615	VE.A 16/10-110	110	16	85	10	115	24
1636	VE.A 16/20-125	125	16	90	20	115	24
1616	VE.A 16/30-145	145	16	100	30	115	24
1620	VE.A 16/60-175	175	16	100	60	115	24
1638	VE.A 16/90-200	200	16	100	90	115	24
1617	VE.A 16/105-220	220	16	100	105	115	24
1624	VE.A 20/15-145	145	20	110	15	200	30
618	VE.A 20/30-170	170	20	120	30	200	30
1644	VE.A 20/60-200	200	20	120	60	200	30
619	VE.A 20/80-220	220	20	120	80	200	30
1628	VE.A 20/130-270	270	20	120	130	200	30
1619	VE.A 24/25-180	180	24	135	25	320	36
1642	VE.A 24/100-260	260	24	135	100	320	36
1690	VE.A 24/180-350	350	24	135	180	320	36

VE.A INOX A2

A2 INOX 304

Code	Description	L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
2601	VE.A A2 6/10-45	45	6	30	10	10	10
2600	VE.A A2 6/5-55	55	6	45	5	10	10
2602	VE.A A2 6/10-65	65	6	50	10	10	10
2603	VE.A A2 6/20-85	85	6	60	20	10	10
52604	VE.A A2 8/1-50	50	8	40	1	20	13
2604	VE.A A2 8/5-55	55	8	40	5	20	13
2605	VE.A A2 8/15-75	75	8	55	15	20	13
2618	VE.A A2 8/25-90	90	8	55	25	20	13
2627	VE.A A2 8/30-95	95	8	55	30	20	13
2606	VE.A A2 8/50-115	115	8	55	50	20	13
52120	VE.A A2 8/140-200	200	8	55	140	20	13
2607	VE.A A2 10/5-65	65	10	50	5	45	17
2617	VE.A A2 10/10-75	75	10	60	10	45	17
2608	VE.A A2 10/20-90	90	10	60	20	45	17
2609	VE.A A2 10/50-120	120	10	60	50	45	17
2610	VE.A A2 12/10-75	75	12	55	10	65	19
2613	VE.A A2 12/20-80	80	12	50	20	65	19
5607	VE.A A2 12/15-90	90	12	80	15	65	19
5608	VE.A A2 12/20-100	100	12	80	20	65	19
2611	VE.A A2 12/25-110	110	12	80	25	65	19
2630	VE.A A2 12/30-120	120	12	80	30	65	19
2611S	VE.A A2 12/35-130	130	12	85	35	65	19
2612	VE.A A2 12/50-145	145	12	85	50	65	19
2629	VE.A A2 16/5-90	90	16	70	5	115	24
2615	VE.A A2 16/20-110	110	16	75	20	115	24
2619	VE.A A2 16/35-125	125	16	75	35	115	24
2616	VE.A A2 16/30-145	145	16	100	30	115	24
2620	VE.A A2 16/65-175	175	16	100	65	115	24



L_t = Anchor length
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T_{inst} = Torque
Ch = Spanner

Revision 02-2021

Vorpa **VE.A**

Steel anchor

non cracked concrete

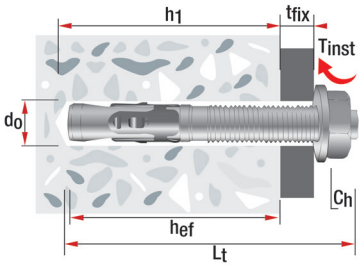
product code and technical data

VE.A INOX A2

Art.	Descrizione	L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
2621	VE.A A2 20/20-160	160	20	120	20	200	28
2622	VE.A A2 20/40-180	180	20	120	40	200	28

VE.A INOX A4

A4 INOX 316



Code	Description		L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
13750	VE.A A4	6/10-55	55	6	40	10	10	10
13751	VE.A A4	6/25-85	85	6	55	25	10	10
13752	VE.A A4	8/10-65	65	8	45	10	20	13
13753	VE.A A4	8/20-75	75	8	55	20	20	13
13774	VE.A A4	8/45-105	105	8	55	45	20	13
13765	VE.A A4	8/50-115	115	8	55	50	20	13
13780	VE.A A4	8/55-120	120	8	55	55	20	13
13754	VE.A A4	8/80-130	130	8	45	80	20	13
13755	VE.A A4	10/10-65	65	10	45	10	45	17
13776	VE.A A4	10/15-75	75	10	60	15	45	17
13756	VE.A A4	10/20-90	90	10	60	20	45	17
13781	VE.A A4	10/30-100	100	10	60	30	45	17
13757	VE.A A4	10/50-120	120	10	60	50	45	17
13766	VE.A A4	10/60-130	130	10	60	60	45	17
13775	VE.A A4	10/70-140	140	10	60	70	45	17
13777	VE.A A4	12/20-80	80	12	50	20	65	19
13758	VE.A A4	12/10-100	100	12	80	10	65	19
52611	VE.A A4	12/20-110	110	12	80	20	65	19
13767	VE.A A4	12/25-120	120	12	90	25	65	19
13759	VE.A A4	12/50-145	145	12	80	50	65	19
13760	VE.A A4	12/80-180	180	12	90	80	65	19
13763	VE.A A4	16/5-100	100	16	80	5	115	24
13768	VE.A A4	16/10-110	110	16	85	10	115	24
13778	VE.A A4	16/35-125	125	16	80	35	115	24
13761	VE.A A4	16/50-145	145	16	100	50	115	24
13762	VE.A A4	16/60-175	175	16	100	60	115	24
13769	VE.A A4	20/30-175	175	20	125	30	200	28

L_t = Anchor length
h_{ef} = Effective anchorage depth
h_1 = Min. hole diameter
d_o = Hole diameter
t_{fix} = Fixture thickness
T_{inst} = Torque
Ch = Spanner

Examples of applications

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Vorpa **VE.A**

Steel anchor

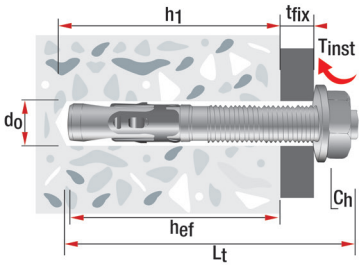
non cracked concrete

product code and technical data

VE.A ZG
Geomet

HOT DIPPED GALVANIZED

Code	Description		L_t mm	d_o mm	h_1 mm	t_{fix} max mm	T_{inst} Nm	Ch
54604	VE.A ZG	8/3-65	65	8	40	3	20	13
54605	VE.A ZG	8/10-80	80	8	55	10	20	13
54606	VE.A ZG	8/30-100	100	8	55	30	20	13
54620	VE.A ZG	8/50-115	115	8	55	50	20	13
54607	VE.A ZG	10/5-80	80	10	50	5	40	17
54617	VE.A ZG	10/15-90	90	10	60	15	40	17
54621	VE.A ZG	10/45-120	120	10	60	45	40	17
54611	VE.A ZG	12/20-110	110	12	80	20	50	19
54612	VE.A ZG	12/50-145	145	12	80	50	50	19
54622	VE.A ZG	12/90-180	180	12	80	90	50	19
54615	VE.A ZG	16/10-125	125	16	85	10	125	24
54616	VE.A ZG	16/35-150	150	16	100	35	125	24
54618	VE.A ZG	20/30-160	160	20	120	30	250	30
54619	VE.A ZG	24/20-180	180	24	135	20	320	36



L_t = Anchor length
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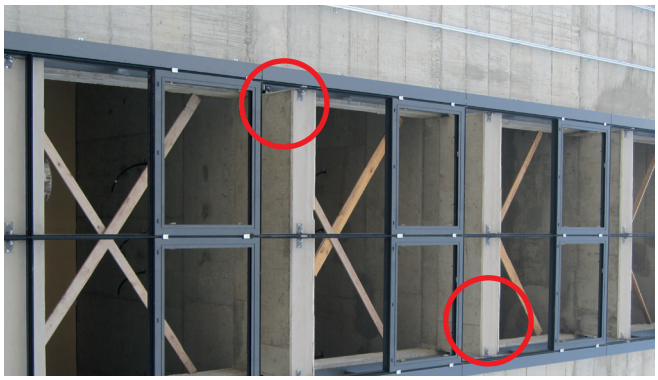
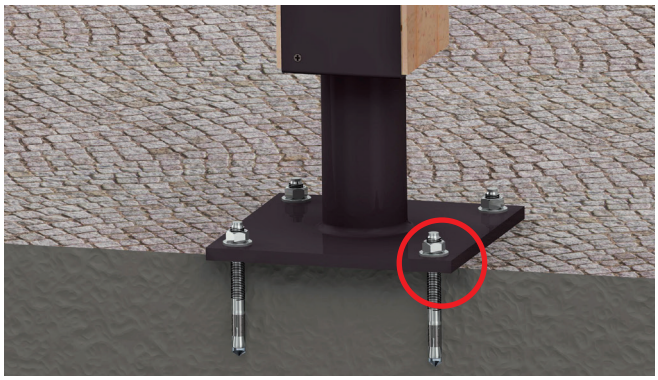
h_1 = Min. hole depth
d_o = Hole diameter
t_{fix} = Fixture thickness
T_{inst} = Torque
Ch = Spanner

Examples of applications





VE.A

			VE.A M6	VE.A M8	VE.A M10	VE.A M12	VE.A M14	VE.A M16	VE.A M20	VE.A M24
Critical axial spacing	S_{cr}	mm	180	190	220	300	340	380	440	520
Critical edge distance	C_{cr}	mm	70	80	100	120	150	170	240	240
Minimum axial spacing	S_{min}	mm	90	95	110	150	170	190	220	290
Minimum edge distance	C_{min}	mm	35	40	50	60	75	85	105	115
Minimum structural thickness	h_{min}	mm	100	100	100	150	180	180	210	240
Through hole in the object to be fixed		mm	7	9	12	14	16	18	22	26

Permissible loads - applications in concrete C20/25									**1 daN ≃ 1 kg**
VE.A	daN	245	420	520	770	850	950	1390	1850

- **Always respect the installation parameters**
- **In case of axial spacings or edge distances are inferior than the critical ones, it is recommended to reduce the application load**
- **The table shows the permissible loads for tension, shear and combined tension and shear loads**

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Vorpa **VE.A**

Steel anchor

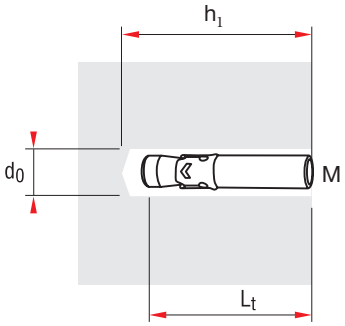
non cracked concrete

product code and technical data

VE.A M with internal thread

* **VE.A M INOX A2 with internal thread**

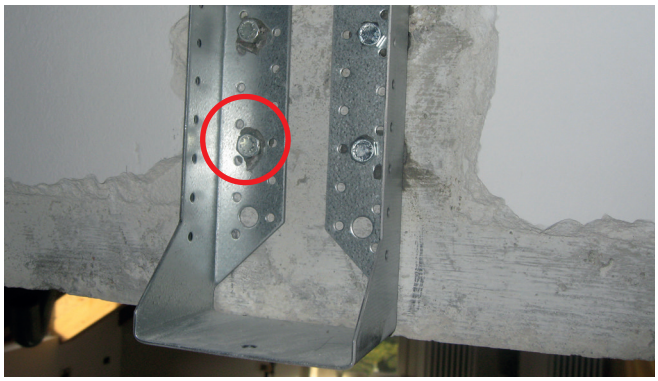
Code.	Description		L_t mm	M mm	d_0 mm	h_1 mm	T_{inst} Nm
13770	VE.A M	8/50	50	M6	8	55	10
13771	VE.A M	10/50	50	M8	10	55	20
13772	VE.A M	12/60	60	M10	12	65	45
13773	VE.A M	16/75	75	M12	16	80	65
13770 A2	VE.A A2 M	8/50	50	M6	8	55	10
13771 A2	VE.A A2 M	10/50	50	M8	10	55	20
13772 A2	VE.A A2 M	12/60	60	M10	12	65	45
13773 A2	VE.A A2 M	16/75	75	M12	16	80	65



Screw length calculation:
$L_v = L_t + t_{fix}$

h_1 = Min. hole depth
L_t = Anchor length
d_o = Hole diameter
t_{inst} = Torque
M = Internal thread

Examples of applications



VE.A M

			VE.A M M6/Ø8	VE.A M M8/Ø10	VE.A M M10/Ø12	VE.A M M12/Ø16
Critical axial spacing	S_{cr}	mm	180	190	220	300
Critical edge distance	C_{cr}	mm	70	80	100	120
Minimum axial spacing	S_{min}	mm	90	95	110	150
Minimum edge distance	C_{min}	mm	35	40	50	60
Minimum structural thickness	h_{min}	mm	100	100	100	150
Through hole in the object to be fixed		mm	7	9	12	14

Permissible loads - applications in concrete C20/25					1 daN≈1 kg
VE.A M	daN	220	340	480	620

- Always respect the installation parameters
- In case of axial spacings or edge distances are inferior than the critical ones, it is recommended to reduce the application load
- The table shows the permissible loads for tension, shear and combined tension and shear loads

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