New Generation

MCS
Concrete Screw
The new generation

- 3 Setting depths
- Allows adjustment
- Wide range
- Stainless steel A4

- European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
- ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)
- Fire resistance up to F120 is part of the approval
- The anchor may also be used under seismic influence for performance category C1 (hnom3: Ø 8, 10, 12, 14)
- 3 Setting depths
- Concrete Screw in stainless steel A4
- Allows adjustment

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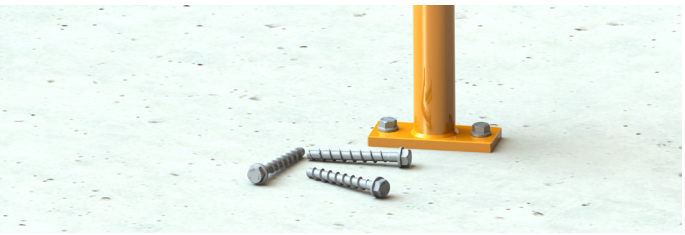
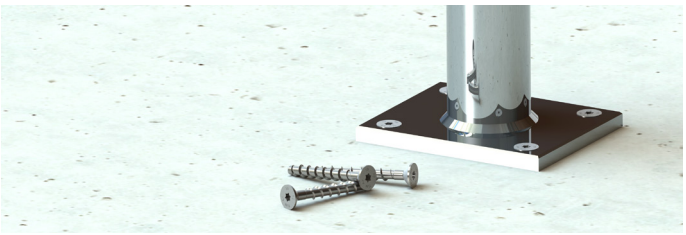
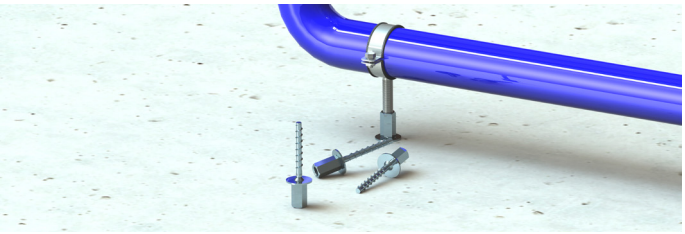
Supports
Customer segment: Steel and metal



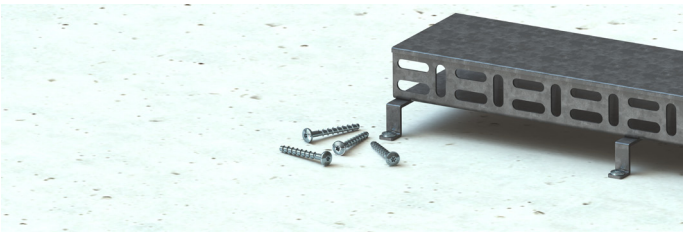
Railings
Customer segment: Steel and metal



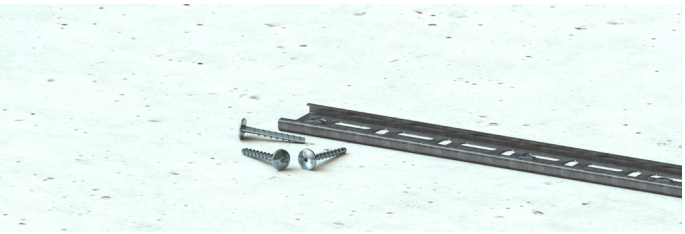
Pipes
Customer segment: Sanitary installation



Cable trays
Customer segment: Electrician



Rails
Customer segment: Sanitary installation



MCS Concrete Screw

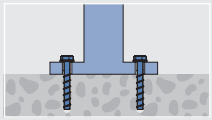
Features

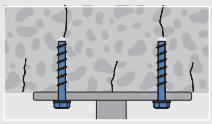
- European Technical Assessment Option 1 for cracked and non-cracked concrete
- ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications
- Fire resistance up to F120 is part of the approval
- The anchor may also be used under seismic influence for performance category C1 (hnom3: Ø 8, 10, 12, 14)
- User-friendly, time-saving installation
- 3 Setting depths
- All possible head version in range
- Allows adjustment or dismantling
- Small edge and spacing distances
- High loads
- Guarantees a clean and uniform appearance
- Through fixing

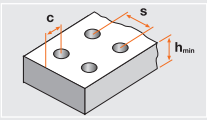
Option 1 | Teil/Part 6 | F120 | C1

Applications

railings, hand-rails, consoles, profiles, substructures, steel constructions, wooden constructions, ventilation systems, pipes, high-racks





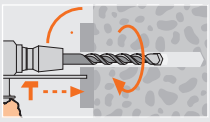


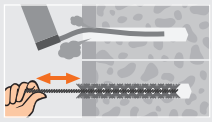
Technical Data

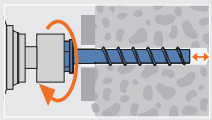
	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}	Clearance hole in fixture mm d_f	Installation torque (Nm) T_{inst}	Wrench size SW	Drive
Ø 5	0.6	0.6	2.1	35	35	80	7	5	-	T25/[1]T30
Ø 6	0.6/1.9/4.3	0.6/1.0/1.9	3.3	35/40/40	35/40/40	80/100/100	8	10	13	T30
Ø 8	3.6/5.7/7.6	2.4/4.3/5.7	8.1	40/50/50	40/50/50	100/100/120	12	20	13	T40
Ø 10	5.7/9.5/12.0	4.3/8.0/9.6	16.2	50/50/50	50/50/50	100/130/130	14	40	15	T50
Ø 12	7.6/13.2/17.2	5.7/9.4/12.3	20.0	50/50/70	50/50/70	120/130/150	16	60	17	-
Ø 14	10.6/17.0/21.2	7.6/12.0/15.1	26.7	50/70/70	50/70/70	130/150/170	18	80	21	-

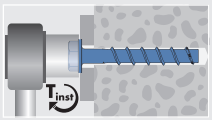
The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to approval / 1 kN ≈ 100 kg / European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50) / ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6) / 1) Concrete Screw with pan head

Installation









MCS-S Concrete Screw with hexagon head with washer, zinc flake-coated steel

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5500604	6	40	35/-/-	40/-/-	5/-/-	100 21	900 22	54000
5500605	6	50	35/40/-	40/45/-	15/10/-	100 31	600 22	36000
5500606	6	60	35/40/55	40/45/60	25/20/5	100 31	600 22	36000
5500608	6	80	35/40/55	40/45/60	45/40/25	100 31	600 22	36000
5500610	6	100	35/40/55	40/45/60	65/60/45	100 31	600 22	36000
5500805	8	50	45/-/-	55/-/-	5/-/-	50 31	300 22	18000
5500806	8	60	45/55/-	55/65/-	15/5/-	50 31	300 22	18000
5500807	8	70	45/55/65	55/65/75	25/15/5	50 31	300 22	18000
5500808	8	80	45/55/65	55/65/75	35/25/15	50 31	300 22	18000
5500809	8	90	45/55/65	55/65/75	45/35/25	50 31	300 22	18000
5500810	8	100	45/55/65	55/65/75	55/45/35	50 41	150 12	9000
5500812	8	120	45/55/65	55/65/75	75/65/55	50 41	150 12	9000
5500814	8	140	45/55/65	55/65/75	95/85/75	50 41	150 12	9000
5501006	10	60	55/-/-	65/-/-	5/-/-	50 41	150 12	9000
5501007	10	70	55/-/-	65/-/-	15/-/-	50 41	150 12	9000
5501008	10	80	55/75/-	65/85/-	25/5/-	50 41	150 12	9000
5501009	10	90	55/75/85	65/85/95	35/15/5	50 41	150 12	9000
5501010	10	100	55/75/85	65/85/95	45/25/15	50 51	150 22	9000
5501012	10	120	55/75/85	65/85/95	65/45/35	50 51	150 22	9000
5501014	10	140	55/75/85	65/85/95	85/65/55	50 51	150 22	9000
5501015	10	150	55/75/85	65/85/95	95/75/65	50 51	150 22	9000
5501016	10	160	55/75/85	65/85/95	105/85/75	50 51	150 22	9000
5501208	12	80	65/-/-	75/-/-	15/-/-	25 31	150 22	9000
5501211	12	110	65/85/100	75/95/110	45/25/10	25 31	150 22	9000
5501213	12	130	65/85/100	75/95/110	65/45/30	25 41	75 12	4500
5501408	14	80	75/-/-	85/-/-	5/-/-	25 41	75 12	4500
5501411	14	110	75/100/-	85/110/-	35/10/-	25 41	75 12	4500
5501413	14	130	75/100/115	85/110/125	55/30/15	25 51	75 22	4500

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCS-SK Concrete Screw with countersunk head

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5510504	5	40	35/-/-	40/-/-	5/-/-	100 21	900 22	54000
5510506	5	60	35/-/-	40/-/-	25/-/-	100 21	900 22	54000
5510604	6	40	35/-/-	40/-/-	5/-/-	100 21	900 22	54000
5510605	6	50	35/40/-	40/45/-	15/10/-	100 31	600 22	36000
5510608	6	80	35/40/55	40/45/60	45/40/25	100 31	600 22	36000
5510610	6	100	35/40/55	40/45/60	65/60/45	100 31	600 22	36000
5510612	6	120	35/40/55	40/45/60	85/80/65	100 31	600 22	36000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCS-P Concrete Screw with pan head

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5520504	5	40	35/-/-	40/-/-	5/-/-	100 21	900 22	54000
5520604	6	40	35/-/-	40/-/-	5/-/-	100 21	900 22	54000
5520605	6	50	35/40/-	40/45/-	15/10/-	100 31	600 22	36000
5520606	6	60	35/40/55	40/45/60	25/20/5	100 31	600 22	36000

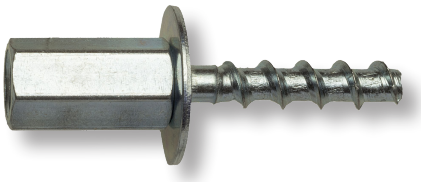
European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCS-PG Concrete Screw with large pan head

Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5530604	6	40	35/-/-	40/-/-	5/-/-	100 21	900 22	54000
5530606	6	60	35/40/55	40/45/60	25/20/5	100 21	900 22	54000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCS-I Concrete Screw with countersunk socket head with metric internal thread



Article code	Drill ∅ mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5540603	6	35	35/-/-	40/-/-	0/-/-	50 41	150 12	9000
5540605	6	55	35/40/55	40/45/60	20/15/0	50 41	150 12	9000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCSr Concrete Screw, stainless steel A4/316

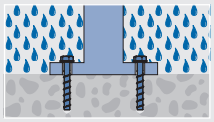
Features

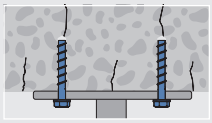
- European Technical Assessment Option 1 for cracked and non-cracked concrete
- ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications
- Fire resistance up to F120 is part of the approval
- The anchor may also be used under seismic influence for performance category C1 (hnom3: Ø 8, 10, 12, 14)
- User-friendly, time-saving installation
- 3 Setting depths
- All possible head version in range
- Allows adjustment or dismantling
- Small edge and spacing distances
- High loads
- Guarantees a clean and uniform appearance
- Through fixing

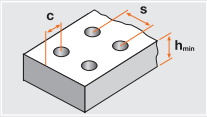
Option 1 | Teil/Part 6 | F120 | C1 | EDELSTAHL INOX A4 STAINLESS STEEL 316

Applications

railings, hand-rails, consoles, profiles, substructures, steel constructions, wooden constructions, ventilation systems, pipes, high-racks





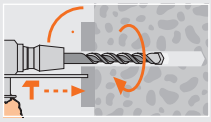


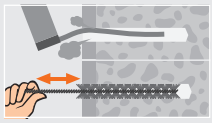
Technical Data

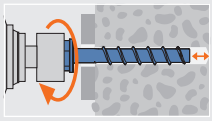
	Non-cracked concrete C20/25 tension load (kN)	Cracked concrete C20/25 tension load (kN)	Concrete C20/25 shear load (kN)	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Minimum thickness of concrete member mm h_{min}	Clearance hole in fixture mm d_f	Installation torque (Nm) T_{inst}	Wrench size SW	Drive
Ø 6	0.6/1.9/4.3	0.6/1.0/1.9	3.3	35/40/40	35/40/40	100/100/100	8	10	13	T30
Ø 8	3.6/5.7/7.6	2.4/4.3/5.7	8.1	40/50/50	40/50/50	100/100/120	12	20	13	T40
Ø 10	5.7/9.5/12.0	4.3/8.0/9.6	16.2	50/50/50	50/50/50	100/130/130	14	40	15	T50

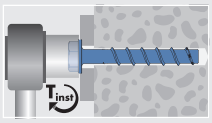
The partial safety factors of the resistances as well as a partial safety factor of the load of γF = 1.4 are considered / The technical data is only valid for single fixings without consideration of edge and anchor distances / Only valid for setting depths according to approval / 1 kN ≈ 100 kg / European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50) / ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

Installation









MCSr-S Concrete Screw with hexagon head with washer, stainless steel A4/316

Article code	Drill Ø mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5600605	6	50	35/40/-	40/45/-	15/10/-	100 31	600 22	36000
5600606	6	60	35/40/55	40/45/60	25/20/5	100 31	600 22	36000
5600807	8	70	45/55/65	55/65/75	25/15/5	50 31	300 22	18000
5600808	8	80	45/55/65	55/65/75	35/25/15	50 31	300 22	18000
5601009	10	90	55/75/85	65/85/95	35/15/5	50 41	150 12	9000
5601010	10	100	55/75/85	65/85/95	45/25/15	50 51	150 22	9000
5601012	10	120	55/75/85	65/85/95	65/45/35	50 51	150 22	9000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCSr-SK Concrete Screw with countersunk head, stainless steel A4/316

Article code	Drill Ø mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5610606	6	65	35/40/55	40/45/60	30/25/10	100 31	600 22	36000
5610808	8	80	45/55/65	55/65/75	35/25/15	50 31	300 22	18000
5611009	10	90	55/75/85	65/85/95	35/15/5	50 41	150 12	9000

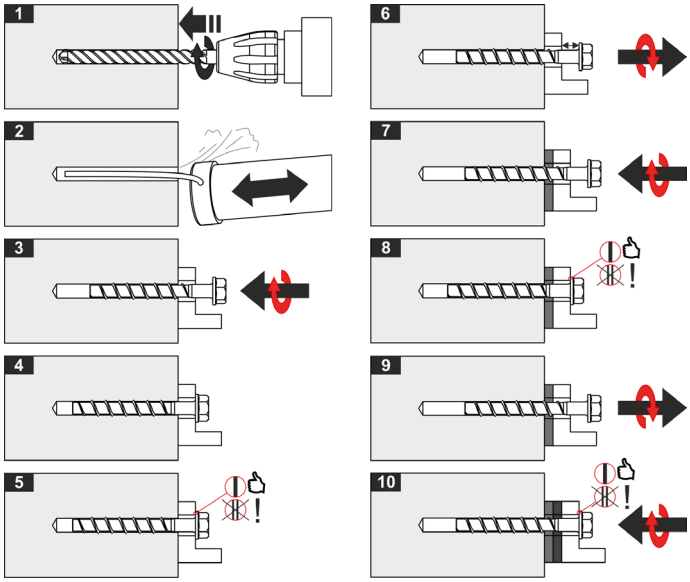
European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

MCSr-P Concrete Screw with pan head, stainless steel A4/316

Article code	Drill Ø mm d_0	Length mm L	Length of screw in building material mm h_{nom1} / h_{nom2} / h_{nom3}	Drilling depth mm $h_{1/1}$ / $h_{1/2}$ / $h_{1/3}$	Usable length mm t_{fix1} / t_{fix2} / t_{fix3}	Box content FS	Outer carton SK	Quantity per pallet
5620605	6	50	35/40/-	40/45/-	15/10/-	100 31	600 22	36000
5620606	6	60	35/40/55	40/45/60	25/20/5	100 31	600 22	36000
5620608	6	80	35/40/55	40/45/60	45/40/25	100 31	600 22	36000
5620610	6	100	35/40/55	40/45/60	65/60/45	100 31	600 22	36000

European Technical Assessment Option 1 for cracked and non-cracked concrete (≥ 6x50)
ETAG 001 - 06 - Approved for multiple use in cracked and non-cracked concrete for non-structural applications (Ø 5 + 6)

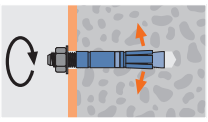
Installation instructions for adjustability



The anchor may be adjusted maximum two times while the anchor may turn back at most 10mm. The total allowed thickness of shims added during the adjustment process is 10mm. The final embedment depth after adjustment process must be equal or larger than h_{nom}.

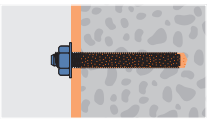
Connection types

Friction



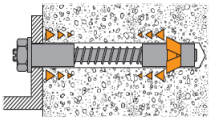
Friction is the load-transfer mechanism employed by expansion anchors. During the installation process, an expansion force is generated which gives rise to a friction force between the anchor and the sides of the drilled hole.

Bond



In the case of chemical interlock, the tension load is transferred to the base material by means of bond. Chemical interlock is the load-transfer mechanism employed by bonded anchors.

Mechanical interlock



Mechanical interlock involves transfer of load by means of a bearing interlock between the fastener and the base material. Mechanical interlock is the load-transfer mechanism employed by headed anchors, anchor channels, screw anchors and undercut anchors.

Classification of the Concrete Screw in guideline part 3: Undercut Anchor according to ETAG 001

MCS Concrete Screw

The special thread of the anchor cuts an internal thread into the member while setting. The anchorage is characterised by mechanical interlock in the special thread, thus small edge and spacing distances and high loads.

Further advantages of the Concrete Screw

- Small drill holes
- High loads
- Small edge and spacing distances
- No curing times - immediately loadable
- Easy to disassemble
- No torque control required
- User-friendly, time-saving installation
- Through fixing possible with all head versions

Zinc flake coating

Zinc flake coatings are non-electrolytically applied coatings, which provide good protection against corrosion. These coatings consist of a mixture of zinc and aluminium flakes.
Further characteristics:
Uniform appearance, high protection against corrosion, chemical resistance and good friction characteristics.