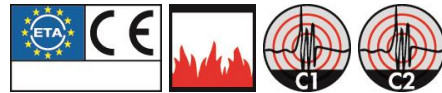
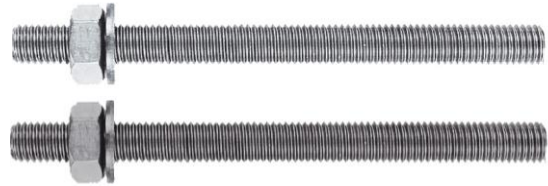


Technical Data Sheet MIT-S and MIT-Sr

MIT-S Anchor Rod, zinc plated, steel quality 5.8 and MIT-Sr Anchor Rod, stainless steel A4-70/316 with hex-nut and washer DIN 125A for Mungo chemical fixing products



1 DESCRIPTION

Mungo post-installed anchoring applications MIT-S and MIT-Sr are designed for a reliable performance in a wide range of chemical anchoring applications. Anchor Rods MIT-S and MIT-Sr can be used with all Mungo chemical fixing products. Anchor Rods are suitable for individual use with different setting depths in steel grades 5.8 (MIT-S) and A4-70 (MIT-Sr).

For separate design with MIT-S or MIT-Sr and corresponding Mungo chemical application, please see the relevant ETA or Mungo Design software.

MIT-S: Reliable Mungo quality to fulfil the basic needs of post-installed anchoring applications with chemical applications.

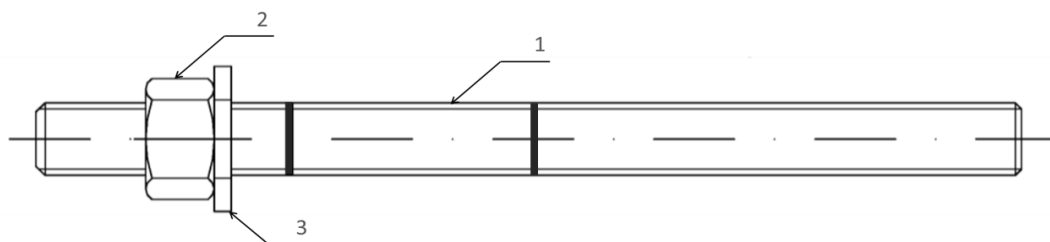
MIT-Sr: Increased performances including high-strength and stainless steel combination. Reliable usability for the most demand areas with chemical applications.

2 DESIGNATION OF ANCHOR PARTS AND MATERIALS

Futures:

MIT-S zinc plated, steel quality 5.8			
Part	Designation	Material	Protection
1	MIT-S Anchor Rod	5.8 EN ISO 898-1	zinc-plated > 5 µm (EN ISO 4042)
2	Hexagonal nut (DIN 934)	≥ 5 EN ISO 898-2	zinc-plated > 5 µm (EN ISO 4042)
3	Washer (DIN 125)	≥ 100HV	zinc-plated > 5 µm (EN ISO 4042)

MIT-Sr stainless steel A4-70/316		
Part	Designation	Material
1	MIT-Sr Anchor Rod	A4-70 (1.4401) EN ISO 3506-1
2	Hexagonal nut (DIN 934)	A4-70 EN ISO 3506-1
3	Washer (DIN 125)	A4 at least 200 HV



3 TECHNICAL DATA- DIMENSIONS

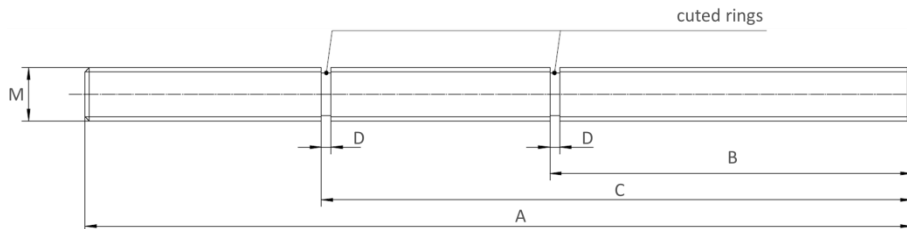
MIT-S and MIT-Sr Anchor Rod for use with all Mungo chemical fixing products and suitable for individual use with different setting depths.

3.1 Anchor Rod MIT-S and MIT-Sr:

Article code	Article code	Dimensions	Drill hole diameter	Length	Cuted ring	Effective anchorage depth 1	Max. usable length 1	Effective anchorage depth 2	Max. usable length 2
MIT-S zinc plated	MIT-Sr stainless steel		[mm] d ₀	[mm] A	[mm] D	[mm] B	[mm] t _{fix}	[mm] C	[mm] t _{fix}
1720607**	—	M6 x 70	8	70	—	48	15	—	—
1720811	1730811	M8 x 110	10	110	3	64	38	96	6
1720813	1730813	M8 x 130	10	130	3	64	58	96	25
1720815	1730815	M8 x 150	10	150	3	64	78	96	46
1720817	1730817	M8 x 170	10	170	3	64	98	96	66
1721011	1731011	M10 x 110	12	110	3	80	20	—	—
1721013	1731013	M10 x 130	12	130	3	80	40	—	—
1721015	1731015	M10 x 150	12	150	3	80	60	120	20
1721017	1731017	M10 x 170	12	170	3	80	80	120	40
1721213	1731213	M12 x 130	14	130	3	96	21	—	—
1721217	1731217	M12 x 170	14	170	3	96	61	144	13
1721221	1731221	M12 x 210	14	210	3	96	101	144	53
1721226	1731226	M12 x 260	14	260	3	96	151	144	103
1721618	1731618	M16 x 180	18	180	4	128	36	—	—
1721622	1731622	M16 x 220	18	220	4	128	76	192	12
1721626	1731626	M16 x 260	18	260	4	128	116	192	52
1721633	1731633	M16 x 330	18	330	4	128	186	192	122
1722027	1732027	M20 x 270	24*	270	4	160	91	240	11
1722030	1732030	M20 x 300	24*	300	4	160	121	240	41
1722432	1732432	M24 x 320	28	320	4	192	105	288	9
1722436	1732436	M24 x 360	28	360	4	192	145	288	49

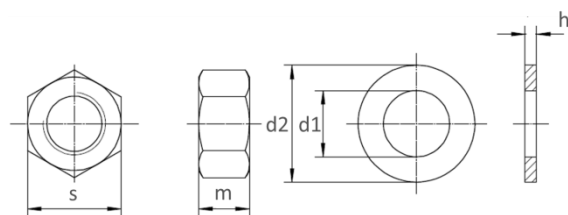
*For MIT-Hybrid system drill hole diameter 22 mm

**Not part of the approval



3.2 Dimensins for hexagonal nut (DIN 934) and Washer (DIN 125):

Anchor Rod dimensions	Hexagonal nut (DIN 934)		Washer (DIN 125)		
	Wrench size [mm] s	Hight [mm] m	Diameter [mm] d1	Diameter [mm] d2	Hight [mm] h
M6	10	5	6.4	12	1.6
M8	13	6.5	8.4	16	1.6
M10	17	8	10.5	20	2
M12	19	10	13	24	2.5
M16	24	16	17	30	3
M20	30	16	21	37	3
M24	36	19	25	44	4



4 VALUES FOR STEEL TENSION RESISTANCE AND STEEL SHEAR RESISTANCE

4.1 Recommended values for steel tension resistance and steel shear resistance:

$$N_{rec,s} = N_{Rk,s} / \gamma_{Ms,N} / \gamma_F ; V_{rec,s} = V_{Rk,s} / \gamma_{Ms,V} / \gamma_F ; M_{rec,s} = M_{Rk,s} / \gamma_{Ms,V} / \gamma_F$$

Anchor Rod size			M6	M8	M10	M12	M16	M20	M24
Recommended tension resistance									
MIT-S, steel property class 5.8	$N_{rec,s}$	[kN]	4.81	8.71	13.81	20.10	37.38	58.33	84.05
MIT-Sr, stainless steel A4, property class 70	$N_{rec,s}$	[kN]	5.39	9.78	15.51	22.54	41.98	65.51	94.39
Recommended shear resistance									
MIT-S, steel property class 5.8	$V_{rec,s}$	[kN]	2.86	5.26	8.29	12.06	22.46	35.03	50.46
MIT-Sr, stainless steel A4, property class 70	$V_{rec,s}$	[kN]	3.21	5.86	9.29	13.51	25.18	39.29	56.59
Recommended bending moment resistance									
MIT-S, steel property class 5.8	$M_{rec,s}$	[Nm]	4.34	10.69	21.37	37.43	95.14	185.43	320.74
MIT-Sr, stainless steel A4, property class 70	$M_{rec,s}$	[Nm]	4.90	12.00	23.95	41.99	106.73	208.06	359.80

The partial safety factors of the resistances γ_{Ms} (EOTA, TR 029) as well as a partial safety factor of the load $\gamma_F = 1.4$ are considered.

4.2 Design values for steel tension resistance and steel shear resistance:

$$N_{rd,s} = N_{Rk,s} / \gamma_{Ms,N} ; V_{rd,s} = V_{Rk,s} / \gamma_{Ms,V} ; M_{rd,s} = M_{Rk,s} / \gamma_{Ms,V}$$

Anchor Rod size			M6	M8	M10	M12	M16	M20	M24
Design tension resistance									
MIT-S, steel property class 5.8	$N_{rd,s}$	[kN]	6.73	12.20	19.33	28.13	52.33	81.67	117.67
MIT-Sr, stainless steel A4, property class 70	$N_{rd,s}$	[kN]	7.54	13.69	21.71	31.55	58.77	91.71	132.14
Design shear resistance									
MIT-S, steel property class 5.8	$V_{rd,s}$	[kN]	4.00	7.36	11.60	16.88	31.44	49.04	70.64
MIT-Sr, stainless steel A4, property class 70	$V_{rd,s}$	[kN]	4.49	8.21	13.01	18.91	35.26	55.00	79.23
Design bending moment resistance									
MIT-S, steel property class 5.8	$M_{rd,s}$	[Nm]	6.08	14.96	29.92	52.40	133.20	259.60	449.04
MIT-Sr, stainless steel A4, property class 70	$M_{rd,s}$	[Nm]	6.86	16.79	33.53	58.78	149.42	291.28	503.72

The partial safety factors of the resistances γ_{Ms} (EOTA, TR 029) is considered.

4.3 Characteristic values for steel tension resistance and steel shear resistance:

Anchor Rod size			M6	M8	M10	M12	M16	M20	M24
Characteristic tension resistance									
MIT-S, steel property class 5.8	$N_{Rk,s}$	[kN]	10.10	18.30	29.00	42.20	78.50	122.50	176.50
MIT-Sr, stainless steel A4, property class 70	$N_{Rk,s}$	[kN]	14.10	25.60	40.60	59.00	109.90	171.50	247.10
Characteristic shear resistance									
MIT-S, steel property class 5.8	$V_{Rk,s}$	[kN]	5.00	9.20	14.50	21.10	39.30	61.30	88.30
MIT-Sr, stainless steel A4, property class 70	$V_{Rk,s}$	[kN]	7.00	12.80	20.30	29.50	55.00	85.80	123.60
Characteristic bending moment resistance									
MIT-S, steel property class 5.8	$M_{Rk,s}$	[Nm]	7.60	18.70	37.40	65.50	166.50	324.50	561.30
MIT-Sr, stainless steel A4, property class 70	$M_{Rk,s}$	[Nm]	10.70	26.20	52.30	91.70	233.10	454.40	785.80

Partial safety factors for γ_{Ms} are determined as a function of the type of loading following EOTA, TR 029, Design of Bonded Anchors;

- MIT-S steel property class 5.8; $\gamma_{Ms,N} = 1.5$ and $\gamma_{Ms,V} = 1.25$
- MIT-Sr stainless steel A4-70; $\gamma_{Ms,N} = 1.87$ and $\gamma_{Ms,V} = 1.56$

Partial safety factors are in absence of national regulation.

5 ATTENTION

The data input must be checked by the user under the responsibility of an engineer experienced in anchorage. This is to ensure there are no errors and all data is complete and accurate and complies with all rules and regulations for the actual conditions and application. The data contained in the technical data sheet is based on principles, formulas and safety regulations according to the existing guidelines for anchorages.