

· BOLTS

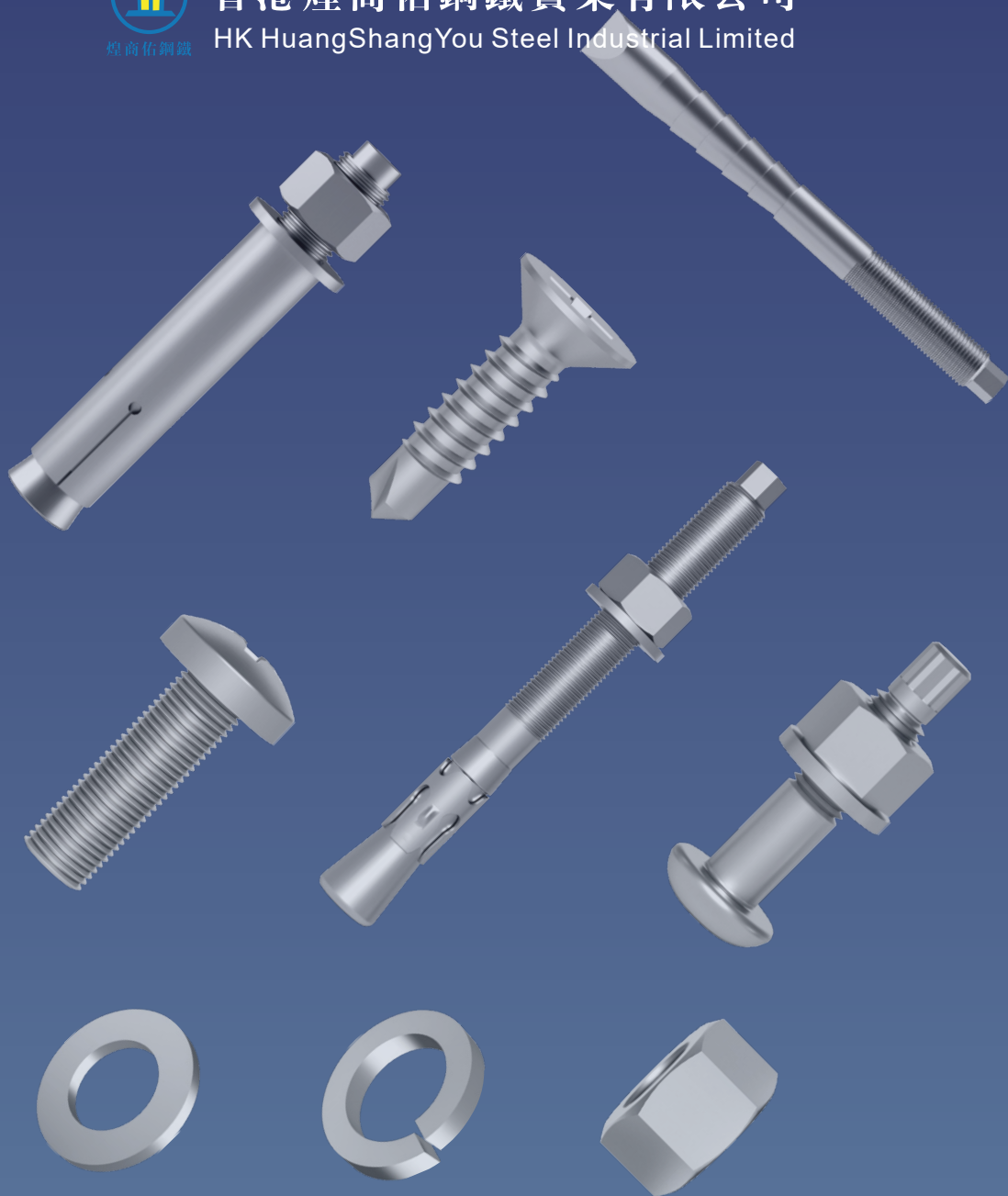
· NUTS

· SCREWS



香港煌商佑鋼鐵實業有限公司

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Fasteners

緊固件



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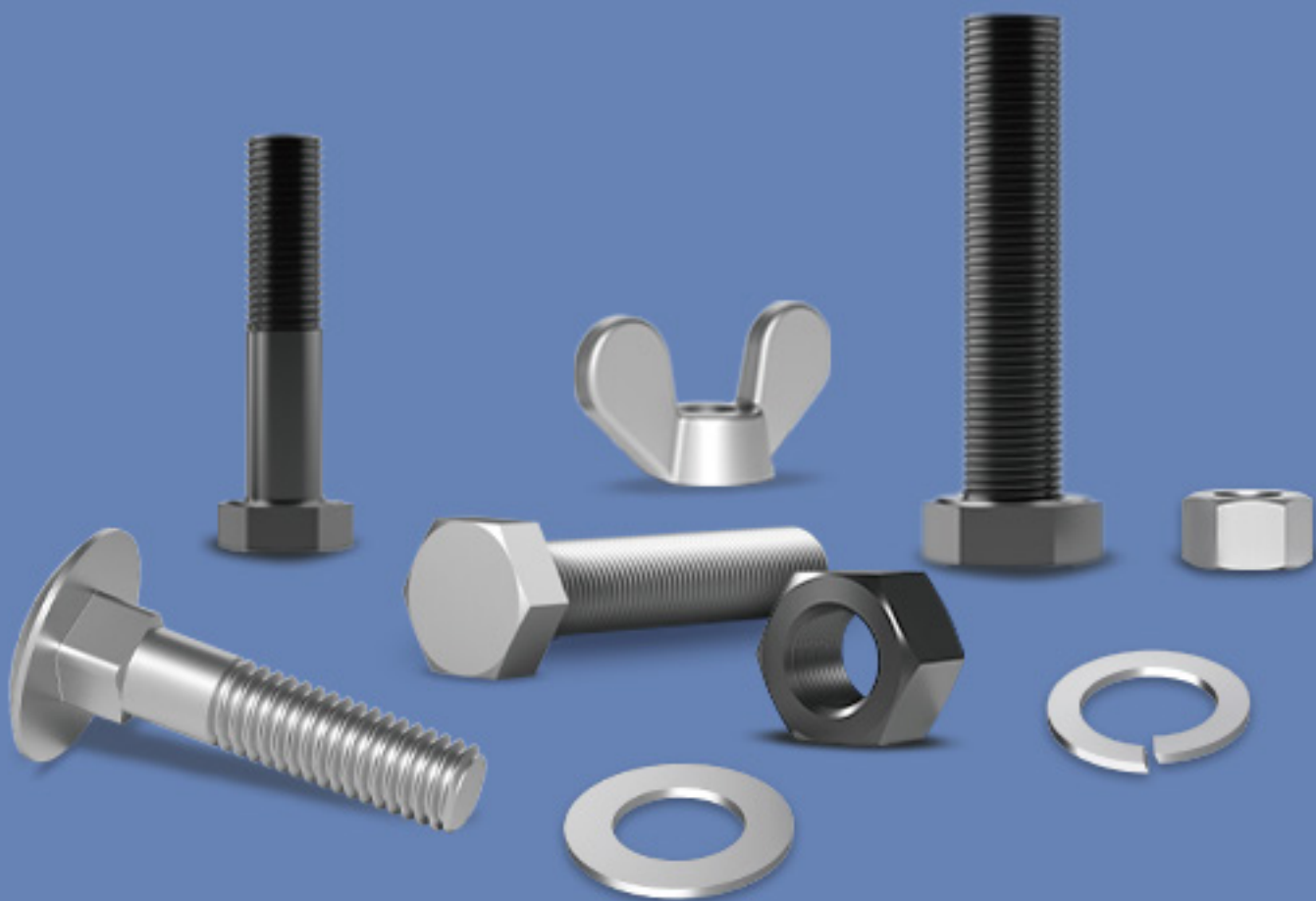
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BO
LTS

螺栓
系列



Hexagon Head Bolts (Stainless Steel)

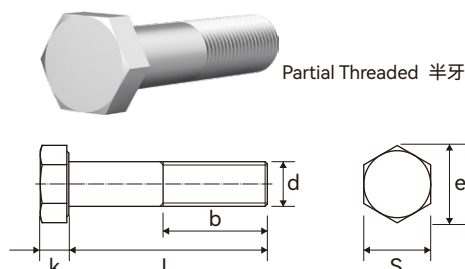
外六角螺栓（不銹鋼）

Material Standard 材料標準: ISO 3506 Part 1:2009

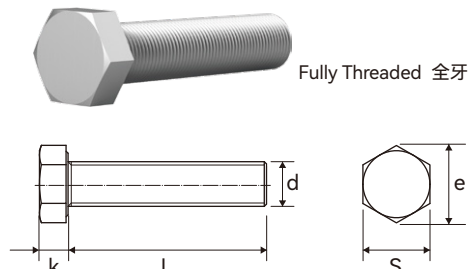
Material Grade 材質: 304 / 316 / 316L

Specification 標準: DIN931 (Partial Threaded 半牙) / DIN933 (Fully Threaded 全牙) / GB5783 / GB5782 / ISO 4014 / ISO 4017

Size 規格: A2-70 / A4-70, A4-80 / A4L-80, A2-50 / A4-50 / A4L-50



Partial Threaded 半牙



Fully Threaded 全牙

Diameter 直徑		M3	M4	M5	M6	M8	M10	M12
Thread Pitch 牙距 (mm)		0.5	0.7	0.8	1.00	1.25	1.50	1.75
s 對邊 (mm)		5.32~5.5	6.78~7	7.78~8	9.78~10	12.73~13	16.73~17	18.67~19
k 頭厚 (mm)		1.88~2.12	2.68~2.92	3.35~3.65	3.85~4.15	5.15~5.45	6.22~6.58	7.32~7.68
Min. e 最小對角 (mm)		6.01	7.66	8.79	11.05	14.38	18.9	21.1
DIN931 GB5782 Min. b 最小牙長 (mm)	L≤125	—	—	—	18	22	26	30
	125 < L≤200	—	—	—	24	28	32	36
	L > 200	—	—	—	37	41	45	49
Diameter 直徑		M14	M16	M18	M20	M22	M24	M27
Thread Pitch 牙距 (mm)		2.00	2.00	2.50	2.50	2.50	3.00	3.00
s 對邊 (mm)		21.67~22	23.67~24	26.67~27	29.7~30	31.61~32	35.38~36	40~41
k 頭厚 (mm)		8.62~8.98	9.82~10.18	11.28~11.72	12.28~12.72	13.78~14.22	14.78~15.22	16.65~17.35
Min. e 最小對角 (mm)		24.49	26.75	30.14	33.53	35.72	39.98	45.2
DIN931 GB5782 Min. b 最小牙長 (mm)	L≤125	34	38	42	46	50	54	60
	125 < L≤200	40	44	48	52	56	60	66
	L > 200	53	57	61	65	69	73	79
Diameter 直徑		M30	M33	M36	M39	M42	M45	M48
Thread Pitch 牙距 (mm)		3.50	3.50	4.00	4.00	4.50	4.50	5.00
s 對邊 (mm)		45~46	49~50	53.8~55	58.8~60	61.61~32	68.1~70	73.1~75
k 頭厚 (mm)		18.28~19.12	20.58~21.42	20.08~22.92	24.58~25.42	13.78~14.22	27.58~28.42	29.58~30.42
Min. e 最小對角 (mm)		50.85	55.37	60.79	66.44	35.72	76.95	82.6
DIN931 GB5782 Min. b 最小牙長 (mm)	L≤125	66	72	78	84	90	96	102
	125 < L≤200	72	78	84	90	96	102	108
	L > 200	85	91	97	103	109	115	121

Note 備註:

A4L-80 has lower carbon content and better corrosion resistance than A4-70 / A4-80. It is commonly used in chemical and petrochemical industry, food processing, pharmaceutical equipment, medical equipment, drinking water, wastewater treatment, marine applications and buildings on or near the seaside.

A4L-80比普通A4-70 / A4-80碳含量更低，具有更好的耐腐蝕性，常用於化學及石化工業，食品加工，製藥設備，醫療設備，飲用水，廢水處理，海洋應用和海濱或附近建築。

Elements 元素	C	Si	Mn	P	S	Ni	Cr	Mo
Value 值 (%)	0.03	1	2	0.045	0.03	10~14	16~18	2~3

Hexagon Nuts (Stainless Steel)

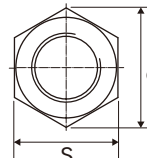
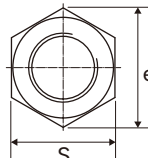
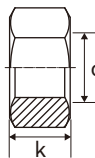
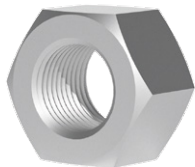
六角螺母 (不銹鋼)

Material Standard 材料標準: ISO 3506 Part 2:2009

Material Grade 材質: 304 / 316 / 316L

Specification 標準: DIN934 / ISO 4032

Size 規格: A2-70 / A4-70, A4-80 / A4L-80



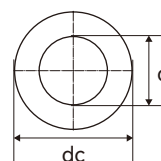
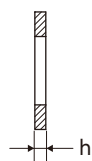
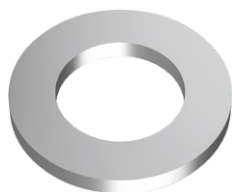
Diameter 直徑	M1.6	M2	M2.5	M3	M4	M5	M6	M8
Thread Pitch 牙距 (mm)	0.35	0.4	0.45	0.50	0.70	0.80	1.00	1.25
s 對邊 (mm)	3.02~3.2	3.82~4	4.82~5	5.32~5.5	6.78~7	7.78~8	9.78~10	12.73~13
k 頭厚 (mm)	1.05~1.3	1.35~1.6	1.75~2	2.15~2.4	2.9~3.2	3.7~4	4.7~5	6.14~6.5
Min. e 最小對角 (mm)	3.41	4.32	5.45	6.01	7.66	8.79	11.05	14.38
Diameter 直徑	M10	M12	M14	M16	M18	M20	M22	M24
Thread Pitch 牙距 (mm)	1.50	1.75	2.00	2.00	2.50	2.50	2.50	3.00
s 對邊 (mm)	16.73~17	18.67~19	21.67~22	23.67~24	26.16~27	29.16~30	31~32	35~36
k 頭厚 (mm)	7.64~8	9.64~10	10.3~11	12.3~13	14.3~15	14.9~16	16.9~18	17.7~19
Min. e 最小對角 (mm)	18.9	21.1	24.49	26.75	29.56	32.95	35.03	39.55
Diameter 直徑	M27	M30	M33	M36	M39	M42	M45	M48
Thread Pitch 牙距 (mm)	3.00	3.50	3.5	4.00	4.00	4.50	4.50	5.00
s 對邊 (mm)	40~41	45~46	49~50	53.8~55	58.8~60	63.1~65	68.1~70	73.1~75
k 頭厚 (mm)	20.7~22	22.7~24	24.7~26	27.4~29	29.4~31	32.4~34	34.4~36	36.4~38
Min. e 最小對角 (mm)	45.2	50.85	55.37	60.79	66.44	71.3	76.95	82.6

Type A Flat Washers (Stainless)

A型平墊圈 (不銹鋼)

Material Grade 材質: 304 / 316

Specification 標準: DIN125 A

Size 規格: $\phi 1.6 \sim \phi 64$ (A2, A4)

Diameter 直徑		φ1.6	φ2	φ2.5	φ3	φ4	φ5	φ6	φ8	φ10	φ12	φ14	φ16	φ18	φ20
d (mm)	max.	1.84	2.34	2.84	3.38	4.48	5.48	6.62	8.62	10.77	13.27	15.27	17.27	19.33	21.33
	min.	1.7	2.2	2.7	3.2	4.3	5.3	6.4	8.4	10.5	13	15	17	19	21
dc (mm)	max.	4	5	6	7	9	10	12	16	20	24	28	30	34	37
	min.	3.7	4.7	5.7	6.64	8.64	9.64	11.57	15.57	19.48	23.48	27.48	29.48	33.48	36.38
h (mm)	max.	0.35	0.35	0.55	0.55	0.9	1.1	1.8	1.8	2.2	2.7	2.7	3.3	3.3	3.3
	min.	0.25	0.25	0.45	0.45	0.7	0.9	1.4	1.4	1.8	2.3	2.3	2.7	2.7	2.7
Diameter 直徑		φ22	φ24	φ27	φ30	φ33	φ36	φ39	φ42	φ45	φ48	φ52	φ56	φ60	φ64
d (mm)	max.	23.33	25.33	28.33	31.39	34.62	37.62	40.82	43.62	46.62	50.62	54.74	60.74	62.74	66.74
	min.	23	25	28	31	34	37	40	43	46	50	54	60	62	66
dc (mm)	max.	39	44	50	56	60	66	72	78	85	92	98	110	110	115
	min.	38.38	43.38	49.38	55.26	58.8	64.8	70.8	76.8	83.6	90.6	96.6	108.6	108.6	113.6
h (mm)	max.	3.3	4.3	4.3	4.3	5.6	5.6	6.6	8	8	9	9	10	10	10
	min.	2.7	3.7	3.7	3.7	4.4	4.4	5.4	6	6	7	7	8	8	8

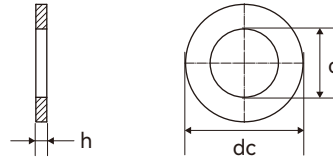
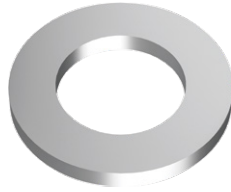
Plain Washers (Stainless)

大平墊圈 (不銹鋼)

Material Grade 材質: 304 / 316

Specification 標準: DIN9021

Size 規格: $\phi 2.5 \sim \phi 36$ (A2, A4)



Diameter 直徑		M2.5	M3	M4	M5	M6	M8	M10	M12	M14
d (mm)	max.	2.84	3.38	4.48	5.48	6.62	8.62	10.77	13.27	15.27
	min.	2.7	3.2	4.3	5.3	6.4	8.4	10.5	13	15
dc (mm)	max.	8	9	12	15	18	24	30	37	44
	min.	7.64	8.64	11.57	14.57	17.57	23.48	29.48	36.38	43.38
h (mm)	max.	0.9	0.9	1.1	1.4	1.8	2.2	2.7	3.3	3.3
	min.	0.7	0.7	0.9	1	1.4	1.8	2.3	2.7	2.7
Diameter 直徑		M16	M18	M20	M22	M24	M27	M30	M36	
d (mm)	max.	17.27	20.52	22.52	24.84	26.84	30.84	34	40	
	min.	17	20	22	24	26	30	33	39	
dc (mm)	max.	50	56	60	66	72	85	92	110	
	min.	49.38	54.1	58.1	64.9	70.1	82.5	89.8	107.8	
h (mm)	max.	3.3	4.6	4.6	6	6	7	7	9.2	
	min.	2.7	3.4	3.4	4	4	5	5	6.8	

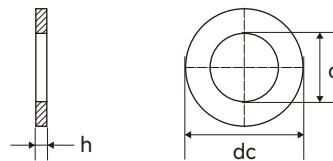
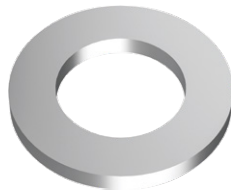
Type C Flat Washers (Stainless)

C型平墊圈 (不銹鋼)

Material Grade 材質: 304 / 316 / 316L

Specification 標準: BS 4320C

Size 規格: $\phi 5 \sim \phi 39$



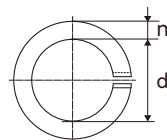
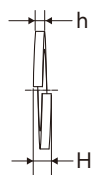
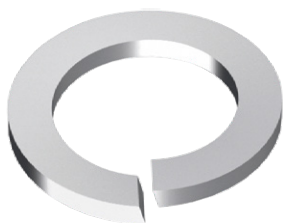
Diameter 直徑		$\phi 5$	$\phi 6$	$\phi 8$	$\phi 10$	$\phi 12$	$\phi 14$	$\phi 16$	$\phi 18$
d (mm)	max.	5.5	6.7	8.7	10.9	13.4	15.4	17.4	19.5
	min.	5.3	6.4	8.4	10.5	13	15	17	19
dc (mm)	max.	12.5	14	21	24	28	30	34	37
	min.	12.1	13.6	20.5	23.5	27.5	29.5	33.2	36.2
h (mm)	max.	1.1	1.8	1.8	2.2	2.7	2.7	3.3	3.3
	min.	0.9	1.4	1.4	1.8	2.3	2.3	2.7	2.7
Diameter 直徑		$\phi 20$	$\phi 22$	$\phi 24$	$\phi 27$	$\phi 30$	$\phi 33$	$\phi 36$	$\phi 39$
d (mm)	max.	21.5	23.5	25.5	28.5	31.6	34.6	37.6	40.6
	min.	21	23	25	28	31	34	37	40
dc (mm)	max.	39	44	50	56	60	66	72	77
	min.	38.2	43.2	49.2	55	59	65	71	76
h (mm)	max.	3.3	3.3	4.3	4.3	4.3	5.6	5.6	6.6
	min.	2.7	2.7	3.7	3.7	3.7	4.4	4.4	5.4

Spring Washers (Stainless)

彈墊 (不銹鋼)

Material Grade 材質: 304 / 316 / 316L

Specification 標準: DIN127B-1987

Size 規格: $\phi 2 \sim \phi 64$ (A2, A4)

Diameter 直徑		$\phi 2$	$\phi 2.5$	$\phi 3$	$\phi 4$	$\phi 5$	$\phi 6$	$\phi 8$	$\phi 10$	$\phi 12$	$\phi 14$	$\phi 16$	$\phi 18$	$\phi 20$	$\phi 22$
d (mm)	max.	2.4	2.9	3.4	4.4	5.4	6.5	8.5	10.7	12.7	14.7	17	19	21.2	23.5
	min.	2.1	2.6	3.1	4.1	5.1	6.1	8.1	10.2	12.2	14.2	16.2	18.2	20.2	22.5
n (mm)	max.	1	1.1	1.4	1.6	1.9	2.65	3.15	3.7	4.2	4.7	5.2	5.2	6.2	6.2
	min.	0.8	0.9	1.2	1.4	1.7	2.35	2.85	3.3	3.8	4.3	4.8	4.8	5.8	5.8
h (mm)	max.	0.6	0.7	0.9	1	1.3	1.7	2.1	2.35	2.65	3.15	3.7	3.7	4.2	4.2
	min.	0.4	0.5	0.7	0.8	1.1	1.5	1.9	2.05	2.35	2.85	3.3	3.3	3.8	3.8
H (mm)	max.	1.2	1.4	1.9	2.1	2.8	3.8	4.7	5.2	5.9	7.1	8.3	8.3	9.4	9.4
	min.	1	1.2	1.6	1.8	2.4	3.2	4	4.4	5	6	7	7	8	8
Diameter 直徑		$\phi 24$	$\phi 27$	$\phi 30$	$\phi 33$	$\phi 36$	$\phi 39$	$\phi 42$	$\phi 45$	$\phi 48$	$\phi 52$	$\phi 56$	$\phi 60$	$\phi 64$	
d (mm)	max.	25.5	28.5	31.7	31	37.7	40.7	43.7	46.7	50.5	54.5	58.5	62.5	66.5	
	min.	24.5	27.5	30.5	31.39	36.5	39.5	42.5	45.5	49	53	57	61	65	
n (mm)	max.	7.25	7.25	8.25	10.25	10.25	10.25	12.25	12.25	12.25	14.25	14.25	14.25	14.25	
	min.	6.75	6.75	7.75	9.75	9.75	9.75	11.75	11.75	11.75	13.75	13.75	13.75	13.75	
h (mm)	max.	5.2	5.2	6.2	4.3	6.2	6.2	7.25	7.25	7.25	8.25	8.25	8.25	8.25	
	min.	4.8	4.8	5.8	3.7	5.8	5.8	6.75	6.75	6.75	7.75	7.75	7.75	7.75	
H (mm)	max.	11.8	11.8	14.2	3.7	14.2	14.2	16.5	16.5	16.5	18.9	18.9	18.9	18.9	
	min.	10	10	12	4.3	12	12	14	14	14	16	16	16	16	

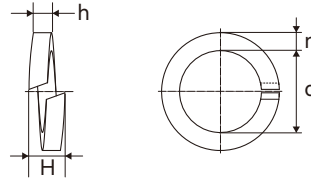
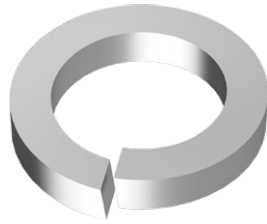
Spring Washers (Stainless)

彈墊 (不銹鋼)

Material Grade 材質: 304 / 316 / 316L

Specification 標準: GB93-1987

Size 規格: $\phi 2 \sim \phi 48$ (A2, A4)



Diameter 直徑		$\phi 2$	$\phi 2.5$	$\phi 3$	$\phi 4$	$\phi 5$	$\phi 6$	$\phi 8$	$\phi 10$	$\phi 12$	$\phi 14$	$\phi 16$	$\phi 18$
d (mm)	max.	2.35	2.85	3.4	4.4	5.4	6.68	8.68	10.9	12.9	14.9	16.9	19.04
	min.	2.1	2.6	3.1	4.1	5.1	6.1	8.1	10.2	12.2	14.2	16.2	18.2
n (mm)	max.	0.58	0.73	0.9	1.2	1.4	1.7	2.2	2.75	3.25	3.8	4.3	4.7
	min.	0.42	0.57	0.7	1	1.2	1.5	2	2.45	2.95	3.4	3.9	4.3
h (mm)	max.	0.58	0.73	0.9	1.2	1.4	1.7	2.2	2.75	3.25	3.8	4.3	4.7
	min.	0.42	0.57	0.7	1	1.2	1.5	2	2.45	2.95	3.4	3.9	4.3
H (mm)	max.	1.25	1.63	2	2.75	3.25	4	5.25	6.5	7.75	9	10.25	11.25
	min.	1	1.3	1.6	2.2	2.6	3.2	4.2	5.2	6.2	7.2	8.2	9
Diameter 直徑		$\phi 20$	$\phi 22$	$\phi 24$	$\phi 27$	$\phi 30$	$\phi 33$	$\phi 36$	$\phi 39$	$\phi 42$	$\phi 45$	$\phi 48$	
d (mm)	max.	21.04	23.34	25.5	28.5	31.5	34.7	37.7	40.7	43.7	46.7	49.7	
	min.	20.2	22.5	24.5	27.5	30.5	33.5	36.5	39.5	42.5	45.5	48.5	
n (mm)	max.	5.2	5.7	6.2	7.1	7.8	8.8	9.3	10.3	10.8	11.3	12.3	
	min.	4.8	5.3	5.8	6.5	7.2	8.2	8.7	9.7	10.2	10.7	11.7	
h (mm)	max.	5.2	5.7	6.2	7.1	7.8	8.8	9.3	10.3	10.8	11.3	12.3	
	min.	4.8	5.3	5.8	6.5	7.2	8.2	8.7	9.7	10.2	10.7	11.7	
H (mm)	max.	12.5	13.75	15	17	18.75	21.25	22.5	25	26.25	27.5	30	
	min.	10	11	12	13.6	15	17	18	20	21	22	24	

Hexagon Head Bolts (Steel)

外六角螺栓 (碳鋼)

Material Standard 材料標準: BS EN ISO 898 Part 1:200

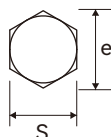
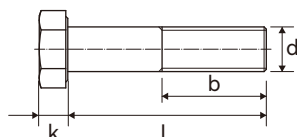
Material Grade 材質: Grade 8.8 High Tensile Steel 8.8級高強度鋼

Specification 標準: DIN933 (Fully Threaded 全牙) / DIN931 (Partial Threaded 半牙) / GB5783 / GB5782 / ISO 4014 / ISO 4017

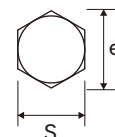
Available in 可提供: Hot dip galvanized to ISO 1461:1999 符合 ISO 1461:1999 的熱鍍鋅處理



Partial Threaded 半牙



Fully Threaded 全牙



Diameter 直徑		M6	M8	M10	M12	M16	M20	M22	M24
Thread Pitch 牙距 (mm)		1.00	1.25	1.50	1.75	2.00	2.50	2.50	3.00
s 對邊 (mm)		9.78~10	12.73~13	16.73~17	18.67~19	23.67~24	29.67~30	31.61~32	35.38~36
k 頭厚 (mm)		3.85~4.15	5.35~5.65	6.82~7.18	7.82~8.18	9.82~10.18	12.79~13.22	13.79~14.22	14.79~15.22
e 對角 (mm)		11.05~11.5	14.38~15	18.9~19.6	21.1~21.9	26.75~27.7	33.53~34.6	35.72~36.9	39.98~41.6
DIN931 GB5782 Min. b 最小牙長 (mm)	L≤125	18	22	26	30	38	46	50	54
	125 < L≤200	—	—	32	36	44	52	56	60
	L > 200	—	—	—	—	57	65	69	73
Diameter 直徑		M27	M30	M33	M36	M39	M42	M45	
Thread Pitch 牙距 (mm)		3.00	3.50	3.50	4.00	4.00	4.50	4.50	
s 對邊 (mm)		40.38~41	45.38~46	49.38~50	54.26~55	59.26~60	64.26~65	69.26~70	
k 頭厚 (mm)		16.79~17.22	18.74~19.26	20.74~21.26	22.74~23.26	24.74~25.26	25.74~26.26	27.74~28.26	
e 對角 (mm)		47.3~45.63	51.28~53.1	55.8~57.7	61.31~63.5	66.96~69.3	72.61~75.1	78.26~80.8	
DIN931 GB5782 Min. b 最小牙長 (mm)	L≤125	60	66	72	78	84	90	96	
	125 < L≤200	66	72	78	84	90	96	102	
	L > 200	79	85	91	97	103	109	115	

Note 備註:

When hot-dip galvanizing, coating thickness is related to rust resistance:

If coating thickness $\geq 45\mu$, no rust in natural environment for 15 to 20 years.If coating thickness $\geq 85\mu$, no rust in natural environment for more than 25 years.

當進行熱浸鍍鋅處理時，鍍層厚度和防銹能力相關:

鍍鋅層厚度 $\geq 45\mu$ 時，自然環境下15~20年不生銹；鍍鋅層厚度 $\geq 85\mu$ 時，自然環境下25年以上不生銹。

Hexagon Nuts (Steel)

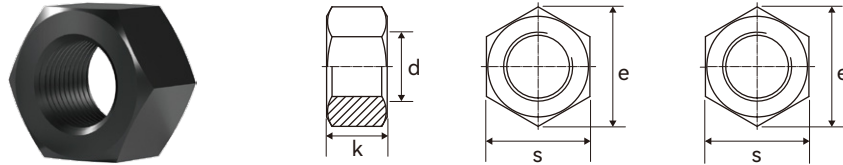
六角螺母 (碳鋼)

Material Standard 材料標準: BS 3692:2001

Material Grade 材質: Grade 8 Steel / Grade 10 Steel 8級鋼/10級鋼

Specification 標準: DIN934 / ISO 4032

Available in 可提供: Hot Dip Galvanized to ISO 1461:1999 符合 ISO 1461:1999 的熱鍍鋅處理



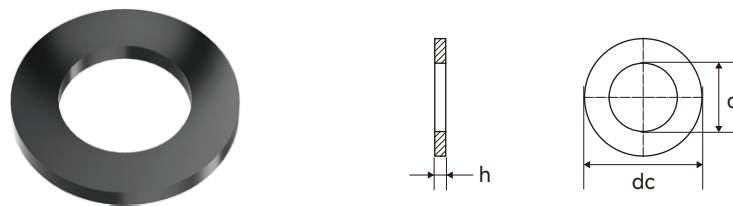
Diameter 直徑	M6	M8	M10	M12	M16	M20	M22	M24
Thread Pitch 牙距 (mm)	1.00	1.25	1.50	1.75	2.00	2.50	2.50	3.00
s 對邊 (mm)	9.78~10	12.73~13	16.73~17	18.67~19	23.67~24	29.67~30	31.61~32	35.38~36
k 頭厚 (mm)	4.7~5	6.14~6.5	7.64~8	9.64~10	12.57~13	15.57~16	17.57~18	18.48~19
e 對角 (mm)	11.05~11.5	14.38~15	18.9~19.6	21.1~21.9	26.75~27.7	33.53~34.6	35.72~36.9	39.98~41.6
Diameter 直徑	M27	M30	M33	M36	M39	M42	M45	
Thread Pitch 牙距 (mm)	3.00	3.50	3.50	4.00	4.00	4.50	4.50	
s 對邊 (mm)	40.38~41	45.38~46	49.38~50	54.26~55	59.26~60	64.26~65	69.26~70	
k 頭厚 (mm)	21.48~22	23.48~24	25.48~26	28.48~29	30.38~31	33.38~34	35.38~36	
e 對角 (mm)	45.63~47.3	51.28~53.1	55.8~57.7	61.31~63.5	66.96~69.3	72.61~75.1	78.26~80.8	

Flat Washers (Steel)

平墊圈 (碳鋼)

Specification 標準: DIN125A

Available in 可提供: Hot Dip Galvanized to ISO 1461:1999 符合 ISO 1461:1999 的熱鍍鋅處理



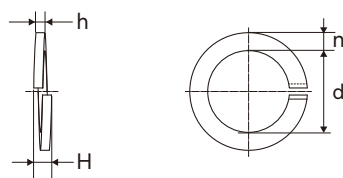
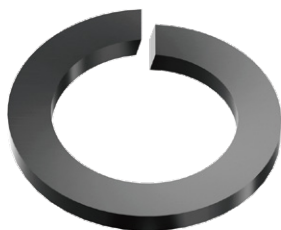
Size 規格	M5	M6	M8	M10	M12	M16	M20	M22
d (mm)	max.	5.5	6.7	8.7	10.9	13.4	17.4	21.5
	min.	5.3	6.4	8.4	10.5	13	17	21
dc (mm)	max.	10	12.5	17	21	24	30	37
	min.	9.7	12.1	16.6	20.5	23.5	29.5	36.2
h (mm)	max.	1.1	1.8	1.8	2.2	2.7	3.3	3.3
	min.	0.9	1.4	1.4	1.8	2.3	2.7	2.7
Diameter 直徑	M24	M27	M30	M33	M36	M39	M42	
d (mm)	max.	25.5	28.5	31.6	34.6	37.6	40.6	43.62
	min.	25	28	31	34	37	40	43
dc (mm)	max.	44	50	56	60	66	72	78
	min.	43.2	49.2	55	59	65	71	76.8
h (mm)	max.	4.3	4.3	4.3	5.6	5.6	6.6	8
	min.	3.7	3.7	3.7	4.4	4.4	5.4	6

Spring Washers (Steel)

彈墊 (碳鋼)

Specification 標準: DIN127B-1987

Available in 可提供: Hot Dip Galvanized to ISO 1461:1999 符合 ISO 1461:1999 的熱鍍鋅處理



Diameter 直徑		φ2	φ2.5	φ3	φ4	φ5	φ6	φ8	φ10	φ12	φ14	φ16	φ18	φ20	φ22
d (mm)	max.	2.4	2.9	3.4	4.4	5.4	6.5	8.5	10.7	12.7	14.7	17	19	21.2	23.5
	min.	2.1	2.6	3.1	4.1	5.1	6.1	8.1	10.2	12.2	14.2	16.2	18.2	20.2	22.5
n (mm)	max.	1	1.1	1.4	1.6	1.9	2.65	3.15	3.7	4.2	4.7	5.2	5.2	6.2	6.2
	min.	0.8	0.9	1.2	1.4	1.7	2.35	2.85	3.3	3.8	4.3	4.8	4.8	5.8	5.8
h (mm)	max.	0.6	0.7	0.9	1	1.3	1.7	2.1	2.35	2.65	3.15	3.7	3.7	4.2	4.2
	min.	0.4	0.5	0.7	0.8	1.1	1.5	1.9	2.05	2.35	2.85	3.3	3.3	3.8	3.8
H (mm)	max.	1.2	1.4	1.9	2.1	2.8	3.8	4.7	5.2	5.9	7.1	8.3	8.3	9.4	9.4
	min.	1	1.2	1.6	1.8	2.4	3.2	4	4.4	5	6	7	7	8	8
Diameter 直徑		φ24	φ27	φ30	φ33	φ36	φ39	φ42	φ45	φ48	φ52	φ56	φ60	φ64	
d (mm)	max.	25.5	28.5	31.7	31	37.7	40.7	43.7	46.7	50.5	54.5	58.5	62.5	66.5	
	min.	24.5	27.5	30.5	31.39	36.5	39.5	42.5	45.5	49	53	57	61	65	
n (mm)	max.	7.25	7.25	8.25	10.25	10.25	10.25	12.25	12.25	12.25	14.25	14.25	14.25	14.25	
	min.	6.75	6.75	7.75	9.75	9.75	9.75	11.75	11.75	11.75	13.75	13.75	13.75	13.75	
h (mm)	max.	5.2	5.2	6.2	4.3	6.2	6.2	7.25	7.25	7.25	8.25	8.25	8.25	8.25	
	min.	4.8	4.8	5.8	3.7	5.8	5.8	6.75	6.75	6.75	7.75	7.75	7.75	7.75	
H (mm)	max.	11.8	11.8	14.2	3.7	14.2	14.2	16.5	16.5	16.5	18.9	18.9	18.9	18.9	
	min.	10	10	12	4.3	12	12	14	14	14	16	16	16	16	

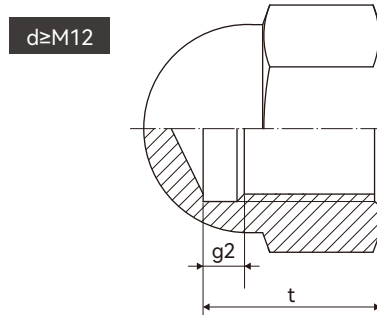
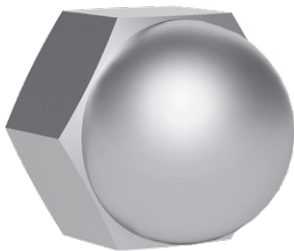
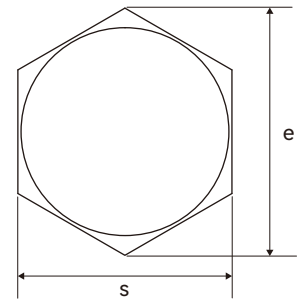
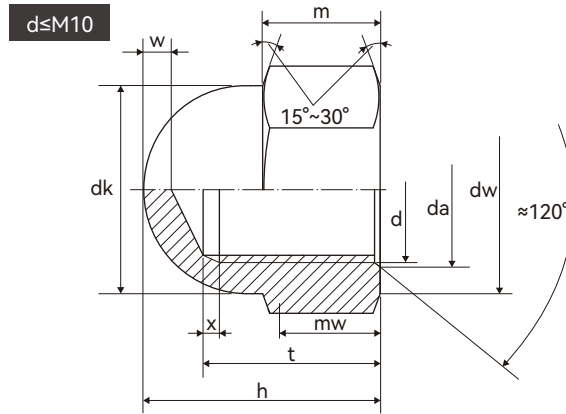
Hexagon Domed Cap Nuts

六角蓋型螺母

Specification 標準: DIN1587-2000

Material and Characteristic Grade 性能等級:

Steel: 6 / 8 Stainless Steel: A2-70 / A2-50 / A4-70 / A4-50 Non-ferrous metal: CU2 / CU3 / AL4



Thread Size 螺紋規格 d	Series 1	M4	M5	M6	M8	M10	M12
	Series 2	—	—	—	M8 x 1	M10 x 1	M12 x 1.5
	Series 3	—	—	—	—	M10 x 1.25	M12 x 1.25
Thread Pitch 牙距 (mm)		0.7	0.8	1	1.25	1.5	1.75
da (mm)		4~4.6	5~5.75	6~6.75	8~8.75	10~10.8	12~13
Max. dk 最大頭徑 (mm)		6.5	7.5	9.5	12.5	15	17
Min. dw (mm)		5.9	6.9	8.9	11.6	14.6	16.6
Min. e 最小對角 (mm)	Product Grade A	7.66	8.79	11.05	14.38	17.77	20.03
	Product Grade B	7.5	8.63	10.89	14.2	17.59	19.85
Max. x (mm)	Series 1	1.4	1.6	2	2.5	3	—
	Series 2	—	—	—	2	2	—
	Series 3	—	—	—	—	2.5	—
Max. g2 (mm)	Series 1	—	—	—	—	—	6.4
	Series 2	—	—	—	—	—	5.6
	Series 3	—	—	—	—	—	4.9
h (mm)	Product Grade A	7.64~8	9.64~10	11.57~12	14.57~15	17.57~18	21.48~22
	Product Grade B	7.42~8	9.42~10	11.3~12	14.3~15	17.3~18	21.16~22
m (mm)		2.9~3.2	3.7~4	4.7~5	6.14~6.5	7.64~8	9.64~10
Min. mw (mm)		2.32	2.96	3.76	4.91	6.11	7.71
r (mm) [≈]		3.25	3.75	4.75	6.25	7.5	8.5
s 對邊 (mm)	Product Grade A	6.78~7	7.78~8	9.78~10	12.73~13	15.73~16	17.73~18
	Product Grade B	6.64~7	7.64~8	9.64~10	12.57~13	15.57~16	17.57~18
t 孔深 (mm)		5.26~5.74	7.21~7.79	7.71~8.29	10.65~11.35	12.65~13.35	15.65~16.35
Min. w (mm)		2	2	2	2	2	3
Approx. Mass per 1000 Steel Nuts 每1000個鋼螺母的大約質量				4.66	11	20.1	28.3

Hexagon Domed Cap Nuts (Continued)

六角蓋型螺母 (續)

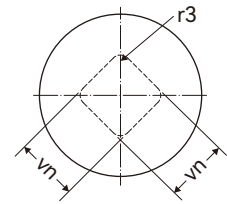
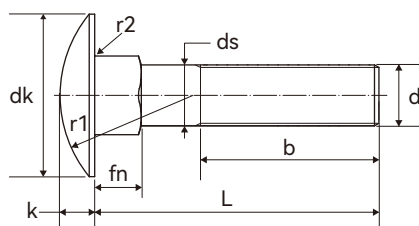
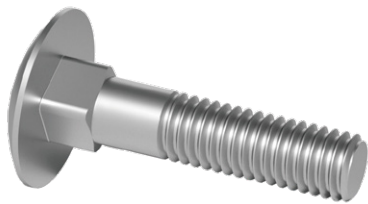
Thread Size 螺紋規格 d	Series 1	M14	M16	M18	M20	M22	M24
	Series 2	M14 x 1.5	M16 x 1.5	M18 x 1.5	M20 x 2	M22 x 1.5	M24 x 2
	Series 3	—	—	M18 x 2	M20 x 1.5	M22 x 2	—
Thread Pitch 牙距 (mm)		2	2	2.5	2.5	2.5	3
da (mm)		14~15.1	16~17.3	18~19.5	20~21.6	22~23.7	24~25.9
Max. dk 最大頭徑 (mm)		20	23	26	28	33	34
Min. dw (mm)		19.6	22.5	24.9	27.7	31.4	33.3
Min. e 最小對角 (mm)	Product Grade A	23.55	26.75	30.14	33.53	37.72	39.98
	Product Grade B	22.78	26.17	29.56	32.95	37.29	39.55
Max. x (mm)	Series 1	—	—	—	—	—	—
	Series 2	—	—	—	—	—	—
	Series 3	—	—	—	—	—	—
Max. g2 (mm)	Series 1	7.3	7.3	9.3	9.3	9.3	10.7
	Series 2	5.6	5.6	5.6	7.3	5.6	7.3
	Series 3	—	—	7.3	5.6	7.3	—
h (mm)	Product Grade A	24.48~25	27.48~28	31.38~32	33.38~34	38.38~39	41.38~42
	Product Grade B	24.16~25	27.16~28	31~32	33~34	38~39	41~42
m (mm)		10.3~11	12.3~13	14.3~15	14.9~16	16.9~18	17.7~19
Min. mw (mm)		8.24	9.84	11.44	11.92	13.52	14.16
r (mm) [≈]		10	11.5	13	14	16.5	17
s 對邊 (mm)	Product Grade A	20.67~21	23.67~24	26.67~27	29.67~30	33.38~34	35.38~36
	Product Grade B	20.16~21	23.16~24	26.16~27	29.16~30	33~34	35~36
t 孔深 (mm)		17.65~18.35	20.58~21.42	24.58~25.42	25.58~26.42	28.58~29.42	30.5~31.5
Min. w (mm)		4	4	5	5	5	6
Approx. Mass per 1000 Steel Nuts 每1000個鋼螺母的大約質量			54.3	95	104		216

Cup Head Square Neck Bolts

大半圓頭方頸螺栓

Specification 標準: DIN603-2017

Material and Characteristic Grade 材料和性能等級: Steel: 4.6 / 4.8 / 8.8 Stainless Steel: A2-70 / A4-70



Description 描述		M5	M6	M8	M10	M12	M16	M20
Thread Pitch 牙距 (mm)		0.8	1	1.25	1.5	1.75	2	2.5
b 牙長 (mm)	L ≤ 125	16	18	22	26	30	38	46
	125 < L ≤ 200	22	24	28	32	36	44	52
	L > 200	—	—	41	45	49	57	65
dk 頭徑 (mm)		12.45~13.55	15.45~16.55	19.35~20.65	23.35~24.65	29.35~30.65	37.20~38.80	45.20~46.80
ds (mm)		4.52~5	5.52~6	7.42~8	9.42~10	11.30~12	15.30~16	19.16~20
fn (mm)		2.90~4.10	3.40~4.60	4.40~5.60	5.40~6.60	7.25~8.75	11.10~12.90	14.10~15.90
k 頭厚 (mm)		2.70~3.30	3.12~3.88	4.12~4.88	4.62~5.38	6.05~6.95	8.05~8.95	9.95~11.05
r1 (mm) [≈]		10.7	12.6	16	19.2	24.1	29.3	33.9
Max. r2 (mm)		0.5	0.5	0.5	0.5	1.0	1.0	1.0
Max. r3 (mm)		0.75	0.90	1.20	1.50	1.80	2.40	3
vn (mm)		4.52~5.48	5.52~6.48	7.42~8.58	9.42~10.58	11.30~12.70	15.30~16.70	19.16~20.84

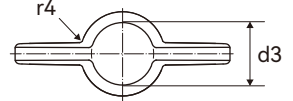
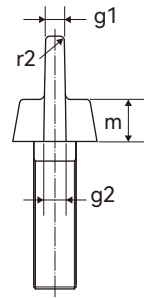
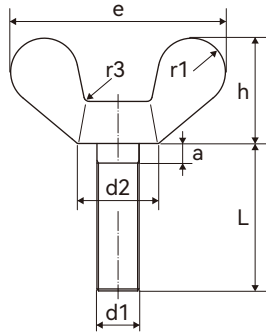
Wing Screws - Rounded Wings

蝶形螺釘-圓翼

Specification 標準: DIN316-2016

Material 材料:

- ①Malleable Cast Iron (GT) (GTS or GTW) 可鍛鑄鐵GT: GTS或GTW; ②Steel (St) (Forged or Cold Worked) 鋼St: 鍛造或冷加工;
③Copper-zinc Alloy (CuZn) (Malleable or Casting Alloy) 鋅銅合金CuZn: 可鍛合金或鑄造合金;
④Austenitic steel (A) (Grade at the Manufacturers Discretion) 奧氏體不銹鋼A: 等級由製造商決定



Thread Size 螺紋規格 d	M4	M5	M6	M8	M10	M12	M16	M20	M24
Thread Pitch 牙距 (mm)	0.7	0.8	1	1.25	1.5	1.75	2	2.5	3
Max. a (mm)	2.1	2.4	3	4	4.5	5.3	6	7.5	9
d2 (mm)	6~8	8~11	10~13	13~16	17~20	20~23	26~29	32~35	41~44
d3 (mm)	5.5~7	7.5~9	9~11	10.5~12.5	14.5~16.5	17.5~19.5	21~23	27~29	35~37.5
e 對角 (mm)	18~20	24~26	30~33	36~39	48~51	62~65	70~73	86~90	106~110
g1 (mm)	1.1~1.9	1.5~2.3	1.5~2.3	2~2.8	3.6~4.4	4.1~4.9	5.6~6.4	6.1~6.9	8.6~9.4
g2 (mm)	1.7~2.3	2.3~2.8	2.7~3.3	3.6~4.4	4.6~5.4	5.6~6.4	6.5~7.5	7~8	9.5~10.5
h (mm)	8.5~10.5	11~13	15~17	18~20	23~25	31~33.5	35~37.5	44~46.5	53.5~56.5
m (mm)	3.2~4.6	4~6.5	5~8	6.5~10	8~12	10~14	13~17	16~21	20~25
r1 (mm) [≈]	3	4	5	6	8	10	11	14	18
r2 (mm) [≈]	Rounded				1	1	1.2	1.6	2.5
r3 (mm) [≈]	0.5	1	1	1	1.2	1.2	1.6	2	2.5
r4 (mm) [≈]	2	2.5	3	3	5	6	7	8	9

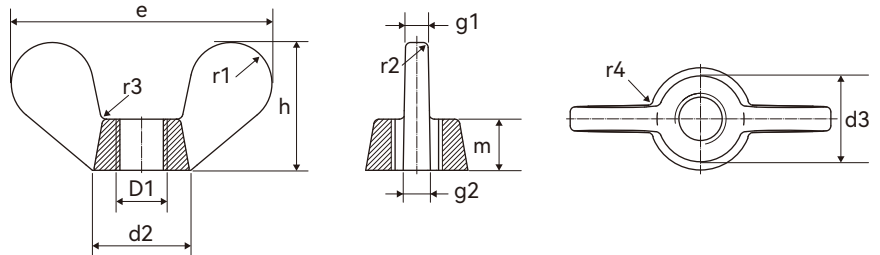
Wing Nuts - Rounded Wings

蝶形螺母-圓翼

Specification 標準: DIN315-2016

Material 材料:

- ① Malleable Cast Iron (GT) (GTS or GTW) 可鍛鑄鐵GT: GTS或GTW; ② Steel (St) (Forged or Cold Worked) 鋼St: 鍛造或冷加工;
③ Copper-zinc Alloy (CuZn) (Malleable or Casting Alloy) 鋅銅合金CuZn: 可鍛合金或鑄造合金;
④ Austenitic steel (A) (Grade at the Manufacturers Discretion) 奧氏體不銹鋼A: 等級由製造商決定



Thread Size 螺紋規格 D1	M4	M5	M6	M8	M10	M12	M16	M20	M24
Thread Pitch 牙距 (mm)	0.7	0.8	1	1.25	1.5	1.75	2	2.5	3
d2 (mm)	6~8	8~11	10~13	13~16	17~20	20~23	26~29	32~35	41~44
d3 (mm)	5.5~7	7.5~9	9~11	10.5~12.5	14.5~16.5	17.5~19.5	21~23	27~29	35~37.5
e 對角 (mm)	18~20	24~26	30~33	36~39	48~51	62~65	70~73	86~90	106~110
g1 (mm)	1.1~1.9	1.5~2.3	1.5~2.3	2~2.8	3.6~4.4	4.1~4.9	5.6~6.4	6.1~6.9	8.6~9.4
g2 (mm)	1.7~2.3	2.3~2.8	2.7~3.3	3.6~4.4	4.6~5.4	5.6~6.4	6.5~7.5	7~8	9.5~10.5
h (mm)	8.5~10.5	11~13	15~17	18~20	23~25	31~33.5	35~37.5	44~46.5	53.5~56.5
m (mm)	3.2~4.6	4~6.5	5~8	6.5~10	8~12	10~14	13~17	16~21	20~25
r1 (mm) [≈]	3	4	5	6	8	10	11	14	18
r2 (mm) [≈]	Rounded				1	1	1.2	1.6	2.5
r3 (mm) [≈]	0.5	1	1	1	1.2	1.2	1.6	2	2.5
r4 (mm) [≈]	2	2.5	3	3	5	6	7	8	9

Fully Thread Rods

牙條

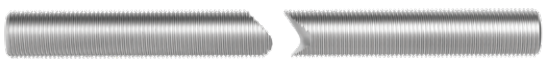
Material Standard 材料標準: Steel to ISO 898 Part 1:2009 / Stainless Steel to ISO 3506 Part 1:2009

Material Grade 材質: Grade 8.8 High Tensile Steel / Grade 4.8 Mild Steel (HDG)

Stainless Steel Grade A2-50, A2-70, A4-50, A4-70, A4-80, A4L-80

Specification 標準: DIN975-1986

Size 規格: M2~M64



Stainless Steel 不銹鋼



Steel 碳鋼



Diameter 直徑	M2	M2.5	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M22
Thread Pitch 牙距 (mm)	0.4	0.45	0.5	0.7	0.8	1	1.25	1.5	1.75	2	2	2.5	2.5	2.5
Diameter 直徑	M24	M27	M30	M33	M36	M39	M42	M45	M48	M52	M56	M60	M64	
Thread Pitch 牙距 (mm)	3	3	3.5	3.5	4	4	4.5	4.5	5	5	5.5	5.5	6	

Note 備註:

The length can be up to 4.5m. 牙條長度最長可達4.5米。

EXPANSION ANCHOR BOLTS

膨脹
螺栓



Huang Shangyou's expansion bolt is made of mainstream steel materials, and the material stability is better than that of ordinary materials in the market. Cause the standard design of screws refers to relevant national and international standards and combined with the actual use of the market, It has high safety. The supporting nuts (DIN934), flat washers (Din125) and spring washers (GB93) are standard products with good product stability.

煌商佑的膨脹螺絲材料採用主流鋼廠料生產，材料穩定性優於市場上普通材料生產的產品。螺絲的標準設計參考了國家與國際相關標準並結合市場實際使用情況，使用安全性高，配套的螺母（DIN934）、平墊（DIN125）、彈墊（GB93）配件都是標準品，產品穩定性好。

Material Grade 材質: 304 / 316

Components 組成: Expansion core, expansion tube, flat washer, spring washer and hexagon nut
膨脹芯、膨脹管、平墊圈、彈簧墊和六角螺母

Dimension 規格 (mm)	M6	50	60	70	80	M8	60	70	80	90	100
Expansion Tube 對應膨脹管 (mm)		6x30x0.6	6x40x0.6	6x50x0.6	6x60x0.6		8x40x0.8	8x50x0.8	8x60x0.8	8x70x0.8	8x80x0.8

Dimension 規格 (mm)	M10	60	70	80	90	100	110	120	130	140	150
Expansion Tube 對應膨脹管 (mm)		10x30x1.0	10x40x1.0	10x50x1.0	10x60x1.0	10x70x1.0	10x80x1.0	10x90x1.0	10x100x1.0	10x110x1.0	10x120x1.0

Dimension 規格 (mm)	M12	60	70	80	90	100	110	120	130	140	150
Expansion Tube 對應膨脹管 (mm)		12x30x1.2	12x40x1.2	12x50x1.2	12x60x1.2	12x70x1.2	12x80x1.2	12x90x1.2	12x100x1.2	12x110x1.2	12x120x1.2

Dimension 規格 (mm)	M14	80	100	120	150	M16	100	120	150	200
Expansion Core 對應膨脹管 (mm)		14x45x1.4	14x65x1.4	14x85x1.4	14x115x1.4		16x60x1.5	16x80x1.5	16x110x1.5	16x160x1.5

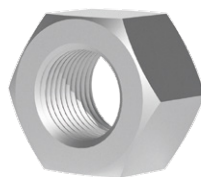
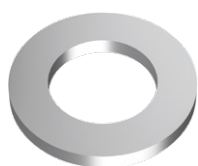
Note 備註:

One set =

1 core + 1 tube + 1 nut + 1 flat washer + 1 spring washer.
Interpretation of expansion tube parameters: such as 60x30x0.6 means the length of tube used with 60x50 expansion core is 30mm, tube wall thickness is 0.6mm.

整套=1芯+1管+1螺帽+1平墊+1彈墊

“對應膨脹管”釋義：如60x30x0.6，指配合6x50膨脹芯使用的管子管長為30mm，管壁厚度為0.6mm。



**Dimensional Tolerance of Expansion Core 膨脹芯尺寸公差:**

Diameter 直徑	M6	M8	M10	M12	M14	M16
Round Head Dia. 圓頭徑 (mm)	8~8.50	10~10.50	12~12.50	14.2~14.70	18~18.50	20~20.50
Thread Outer Dia. 牙外徑 (mm)	5.80~5.97	7.77~7.97	9.74~9.96	11.71~11.96	13.69~13.96	15.69~15.96
Head Thickness 頭厚 (mm)	5~7	7~9	10~12	11~13	13~16	15~18
Rod Dia. 螺桿直徑 (mm)	5.26~5.32	7.08~7.16	8.92~8.99	10.74~10.82	12.4~12.6	14.4~14.6
Anchorage Length 尾端長度 (mm)	1.50~2.50	1.50~2.50	2~3	2.5~3.5	3~4	3~4
Anchorage Dia. 尾端直徑 (mm)	4.30~4.50	6~6.20	7.50~7.70	9.40~9.60	10~11	12~13

Dimensional Tolerance of Expansion Core 膨脹芯長度公差:

Nominal Length 公稱長度 (mm)	Length Tolerance 長度公差 (mm)	Thread Length 牙長 (mm)					
		M6	M8	M10	M12	M14	M16
50	± 0.5	25~27					
60	± 0.6	30~32	30~32.5	30~33	30~33.5		
70	± 0.6	35~37	35~37.5	35~38	35~38.5		
80	± 0.6	40~42	40~42.5	40~43	40~43.5	40~44	
90	± 0.7		45~47.5	45~48	45~48.5	45~49	
100	± 0.7		50~52.5	50~53	50~53.5	50~54	50~55
110	± 0.7			55~58	55~58.5	55~59	55~60
120	± 0.7			60~63	60~63.5	60~64	60~65
130	± 0.8			65~68	65~68.5	65~69	65~70
140	± 0.8			70~73	70~73.5	70~74	70~75
150	± 0.8			75~78	75~78.5	75~79	75~80
200							100~105

Product Parameters 產品參數:

Diameter 直徑	M6	M8	M10	M12	M14	M16
Drill Hole Size 打孔尺寸 (mm)	8	10	12.5	15	18	20
Max. Tensile Strength 最大抗拉力 (mm)	650~800	1100~1200	1500~1700	2300~2500	2800~3000	2500~3700



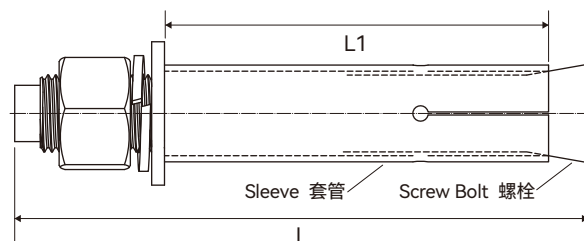
Small Head Slotted Expansion Anchor Bolts

有縫小頭膨脹螺栓

Applied Base Material 適用基材: Type No. C12/15–C50/60 Concrete, Natural Dense Stone C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical Equipment, Window and Door
鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12	M14	M16
Round Head Dia. 圓頭徑 (mm)	8	10	12.5	15	18	20
Length of Sleeve 管長 L1(mm)	L-20	L-20	L-30	L-30	L-35	L-40
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15	18	20
Min. Setting Depth 最小埋深 (mm)	30	35	40	45	55	60
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65	110	160

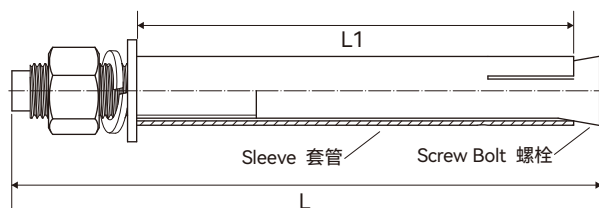
Big Head Seamless Expansion Anchor Bolt

無縫大頭膨脹螺栓

Applied Base Material 適用基材: Type No. C12/15–C50/60 Concrete, Natural Dense Stone C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical Equipment, Window and Door
鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12	M14	M16
Round Head Dia. 圓頭徑 (mm)	10	12	14	16	18	20
Length of Sleeve 管長 L1(mm)	L-20	L-25	L-30	L-35	L-40	L-45
Hole Dia. 打孔直徑 (mm)	10	12	14	16	18	20
Min. Setting Depth 最小埋深 (mm)	30	35	40	45	55	60
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65	110	160

Wedge Anchor

車修壁虎

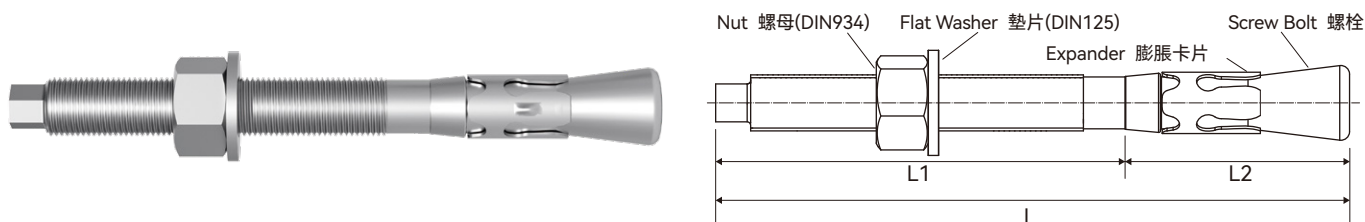
Applied Base Material 適用基材: Type No. C12/15-C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone

開裂和非開裂C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Elevator Span Structure, Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical

Equipment, Window and Door 電梯橋架、鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316 / Steel



Description 描述	M6	M8	M10	M12	M14	M16
Round Head Dia. 圓頭徑 (mm)	8	10	12.5	15	18	20
Length of Head 頭部長度 L2(mm)	25	30	33	40	50	55
Hole Dia. 打孔直徑 (mm)	6	8	10	12	16	20
Min. Setting Depth 最小埋深 (mm)	30	35	40	45	55	60
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65	160	220

Slotted Hexagon Head Inner Expansion Anchor Bolt

外六角長眼內膨脹

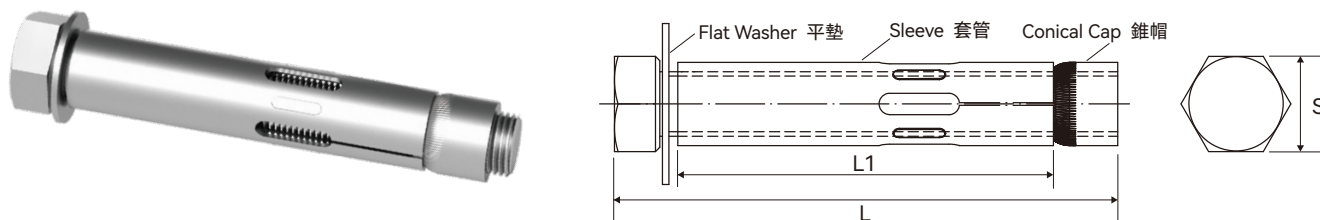
Applied Base Material 適用基材: Type No. C20/2512/15-C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone

開裂和非開裂C20/2512/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Elevator Span Structure, Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical

Equipment, Window and Door 電梯橋架、鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Sleeve Outside Dia. 管外徑 (mm)	8	10	12	15
Length of Sleeve 管長 L1(mm)	L-10	L-15	L-15	L-15
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15
Min. Setting Depth 最小埋深 (mm)	30	35	40	45
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65

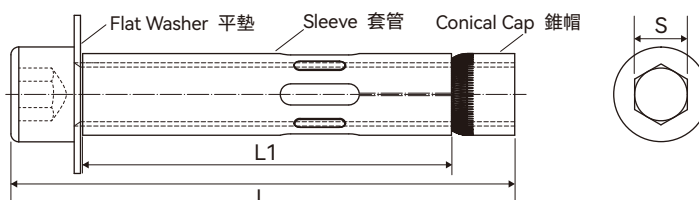
Slotted Hexagon Socket Inner Expansion Anchor Bolt

內六角長眼內膨脹

Applied Base Material 適用基材: Type No. C20/2512/15-C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone
開裂和非開裂C20/2512/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Elevator Span Structure, Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical Equipment, Window and Door 電梯橋架、鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Sleeve Outside Dia. 管外徑 (mm)	8	10	12	15
Length of Sleeve 管長 L1(mm)	L-10	L-15	L-15	L-15
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15
Min. Setting Depth 最小埋深 (mm)	30	35	40	45
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65

Note 備註:

- Standard of Screw Bolt 螺絲標準: DIN912
- Standard of Flat Washer 平墊標準: DIN9021

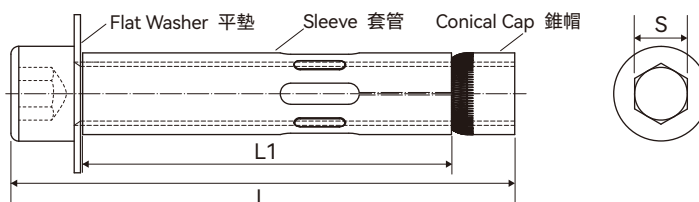
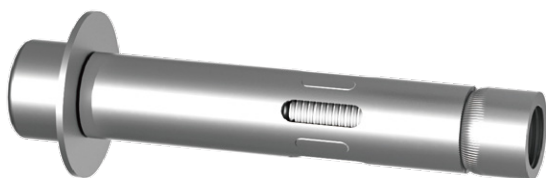
Slotted Cross Recessed / Hexagon Socket Inner Expansion Anchor Bolt

十字槽/內六角長眼內膨脹

Applied Base Material 適用基材: Type No. C20/2512/15-C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone
開裂和非開裂C20/2512/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Elevator Span Structure, Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical Equipment, Window and Door 電梯橋架、鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Sleeve Outside Dia. 管外徑 (mm)	8	10	12	15
Length of Sleeve 管長 L1(mm)	L-10	L-15	L-15	L-15
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15
Min. Setting Depth 最小埋深 (mm)	30	35	40	45
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65



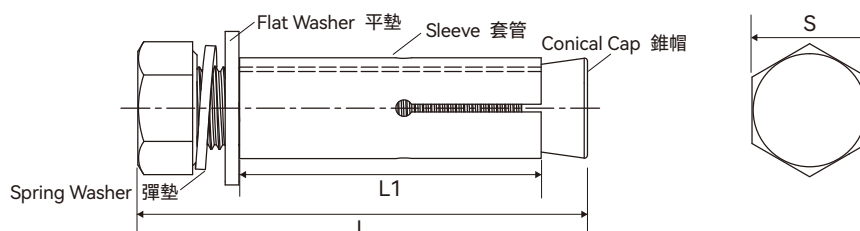
Seamless Hexagon Head Inner Expansion Anchor Bolt

外六角無縫內膨脹

Applied Base Material 適用基材: Type No. C20/2512/15-C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone
開裂和非開裂C20/2512/15到C50/60混凝土，天然緻密石材

Fixed Range of Application 適合固定: Elevator Span Structure, Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical Equipment, Window and Door 電梯橋架、鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Sleeve Outside Dia. 管外徑 (mm)	8	10	12	15
Length of Sleeve 管長 L1(mm)	L-10	L-15	L-15	L-15
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15
Min. Setting Depth 最小埋深 (mm)	30	35	40	45
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65

Note 備註:

- Standard of Screw Bolt 螺絲標準: GB5783
- Standard of Flat Washer 平墊標準: DIN9021

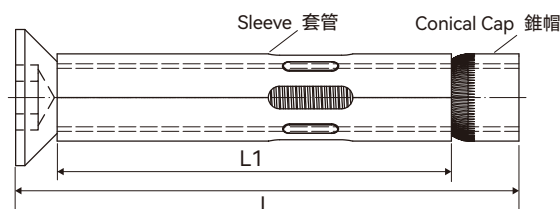
Slotted Cross Recessed / Hexagon Socket Inner Expansion Anchor Bolt

十字槽/內六角長眼內膨脹

Applied Base Material 適用基材: Type No. C20/2512/15-C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone
開裂和非開裂C20/2512/15到C50/60混凝土，天然緻密石材

Fixed Range of Application 適合固定: Elevator Span Structure, Structural Steel, Balustrade, Railing, Ladder, Support, Mechanical Equipment, Window and Door 電梯橋架、鋼結構、欄杆、柵欄、扶梯、支架、機器設備、門窗等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Sleeve Outside Dia. 管外徑 (mm)	8	10	12	15
Length of Sleeve 管長 L1(mm)	L-10	L-15	L-15	L-15
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15
Min. Setting Depth 最小埋深 (mm)	30	35	40	45
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65

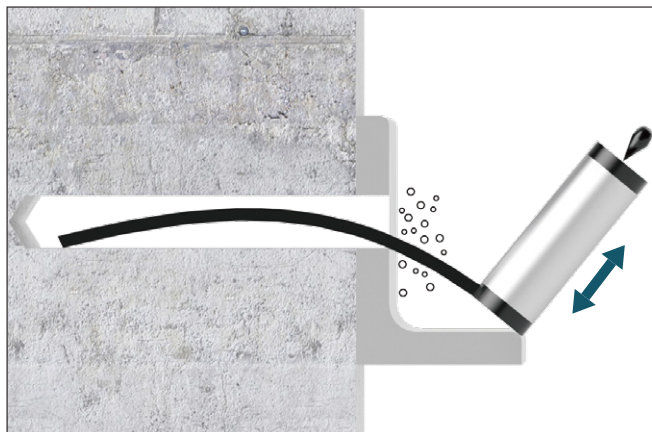


Installation of Wedge Anchor and Sleeve Anchor

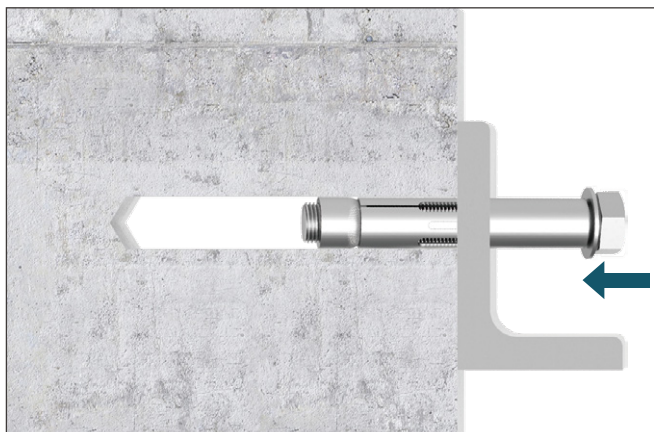
楔形和套筒螺栓的安裝方法



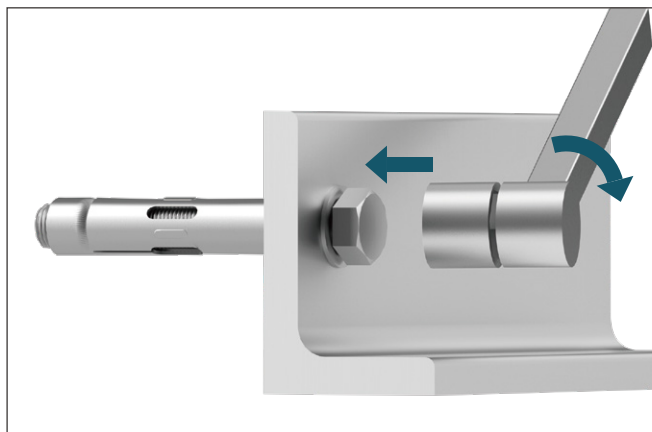
- 1** Drill to specified diameter and depth.
鑽孔至規定的直徑或深度。



- 2** Clean the hole, suck out the dust.
清潔孔洞，吸出灰塵。



- 3** Drive anchor carefully with hammer into hole until nut and washer are flush with fixture.
用錘子小心地將錨栓推入孔內，直到螺母和墊圈與固定裝置平齊。



- 4** Tighten with the wrench to the recommended torque value.
用扳手擰緊至建議的扭矩值。



- 5** Finished.
完成。



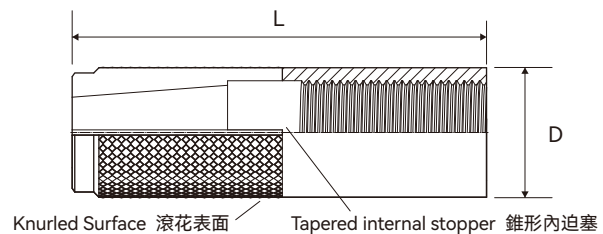
Drop In Anchor

內迫壁虎

Applied Base Material 適用基材: Type No. C12/15-C50/60 Concrete, Natural Dense Stone C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Balustrade, Pipe, Ventilating Duct, Automatic Fire Extinguishing System, Central Air-conditioning Blower, Cable bridge, Ceiling
柵欄、管道、通風管道、自動滅火系統、中央空調風機、電纜橋架、吊頂、天花板等

Material Grade 材質: 304 / 316 / Steel



Description 描述	M6	M8	M10	M12	M14	M16
Outside Dia. 外徑 D(mm)	8	10	12	16	20	25
Length 長度 L(mm)	25	30	40	50	65	80
Hole Dia. 打孔直徑 (mm)	8	10	12	16	20	25
Min. Setting Depth 最小埋深 (mm)	25	30	40	50	65	80
Tightening Torque 推薦安裝扭矩 (N·m)	9	20	40	55	150	220

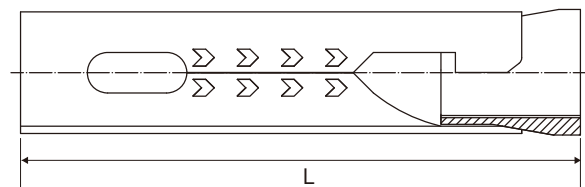
Three-pieces Type Scale Anchor

三片式魚鱗壁虎

Applied Base Material 適用基材: Type No. C12/15-C50/60 Concrete, Natural Dense Stone C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Balustrade, Pipe, Ventilating Duct, Automatic Fire Extinguishing System, Central Air-conditioning Blower, Cable bridge, Ceiling
柵欄、管道、通風管道、自動滅火系統、中央空調風機、電纜橋架、吊頂、天花板等

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Outside Dia. 外徑 (mm)	10	12	15	18
Length 長度 L(mm)	48	50	58	62
Hole Dia. 打孔直徑 (mm)	8	10	12	16
Min. Setting Depth 最小埋深 (mm)	48	50	58	62
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65

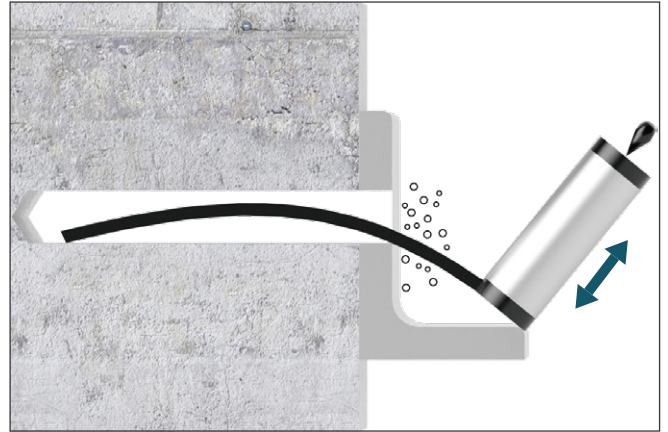


Installation of Drop In Anchor and Scale Anchor

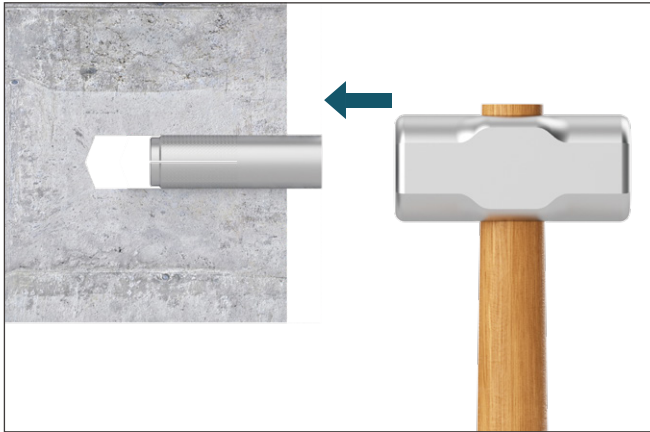
內迫壁虎和魚鱗壁虎的安裝方法



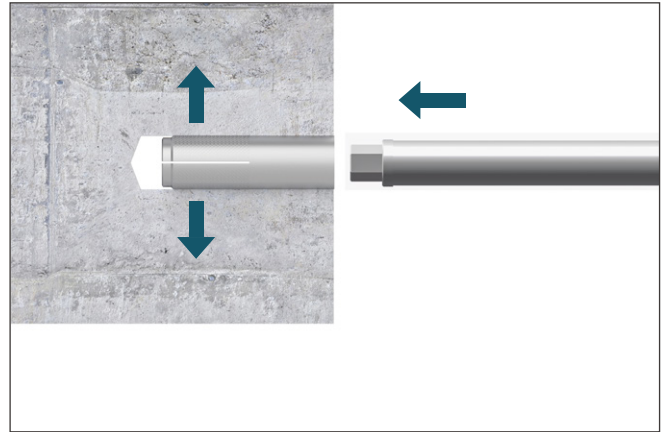
- 1** Drill to specified diameter and depth.
鑽孔至規定的直徑或深度。



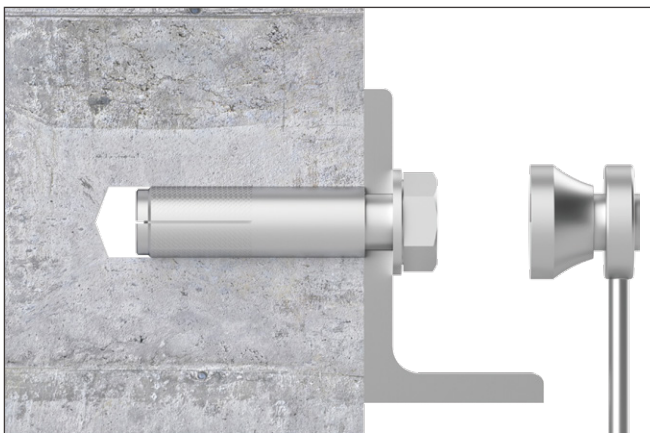
- 2** Clean the hole, suck out the dust.
清潔孔洞，吸出灰塵。



- 3** Insert anchor into the hole by hammer.
用錘子將壁虎推入孔內。



- 4** Using proper setting tool. Setting tool to be driven into anchor until setting tool's shoulder meets top of anchor.
使用適當的安裝工具。將安裝工具打入壁虎，直到安裝工具的肩部接觸到壁虎頂部。



- 5** Use a torque wrench to apply a required tightening torque.
使用扭矩扳手施加所需的擰緊力矩。



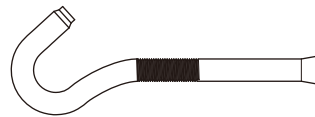
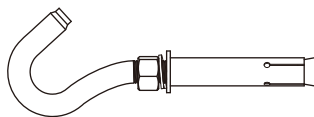
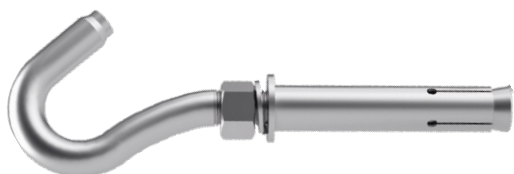
Small Head Slotted Expansion Hook

有縫小頭膨脹鉤

Applied Base Material 適用基材: Type No. C12/15-C50/60 Concrete, Natural Dense Stone C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Various Chandeliers, Ceiling Fans and Other Pendants 各類燈具、吊扇等掛件

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Round Head Dia. 圓頭徑 (mm)	8	10	12.5	15
Length of Sleeve 管長 L1(mm)	35	40	45	50
Hole Dia. 打孔直徑 (mm)	8	10	12.5	15
Min. Setting Depth 最小埋深 (mm)	40	45	50	55
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65

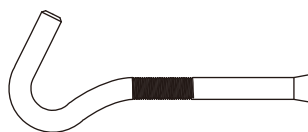
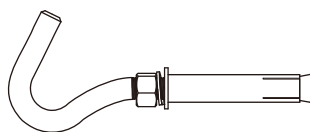
Big Head Seamless Expansion Hook

無縫大頭膨脹鉤

Applied Base Material 適用基材: Type No. C12/15-C50/60 Concrete, Natural Dense Stone C12/15到C50/60混凝土, 天然緻密石材

Fixed Range of Application 適合固定: Various Chandeliers, Ceiling Fans and Other Pendants 各類燈具、吊扇等掛件

Material Grade 材質: 304 / 316



Description 描述	M6	M8	M10	M12
Outside Dia. 外徑 (mm)	10	12	14	16
Length of Sleeve 管長 L1(mm)	35	40	45	50
Hole Dia. 打孔直徑 (mm)	10	12	14	16
Min. Setting Depth 最小埋深 (mm)	40	45	50	55
Tightening Torque 推薦安裝扭矩 (N·m)	10.5	25	45	65



化學 錨栓

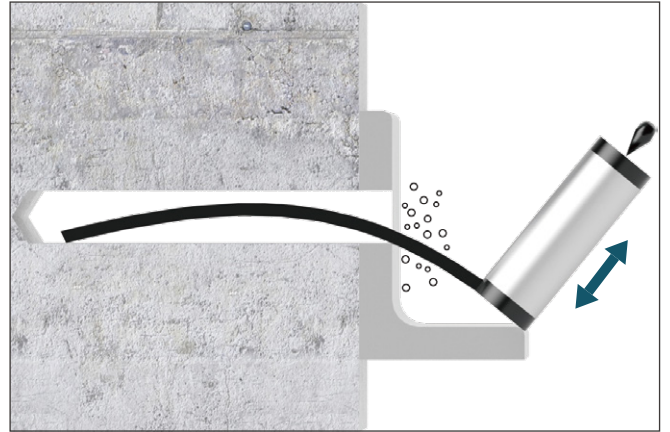


Installation of Expansion Hook

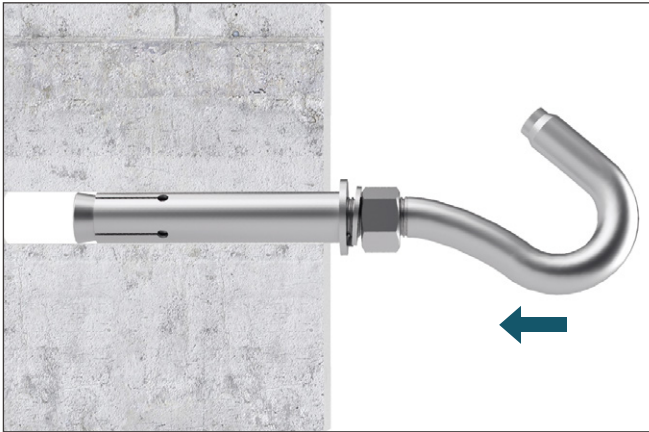
膨脹鉤的安裝方法



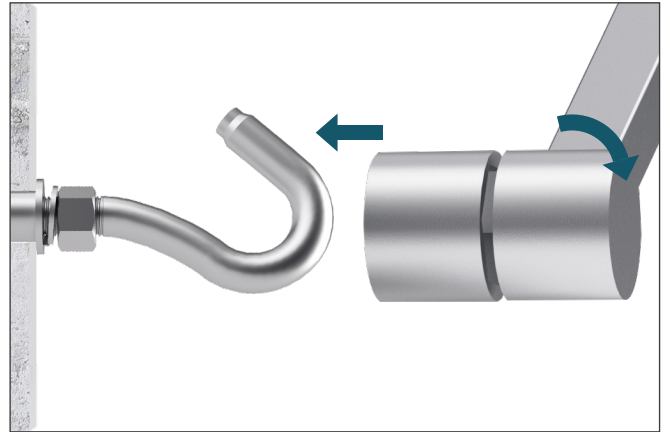
- 1** Drill to specified diameter and depth.
鑽孔至規定的直徑或深度。



- 2** Clean the hole, suck out the dust.
清潔孔洞，吸出灰塵。



- 3** Push anchor carefully with hand into hole until washer are flush with concrete.
用手小心地將錨栓推入孔內，直到墊圈與混凝土平齊。



- 4** Tighten with the wrench to the recommended torque value.
用扳手擰緊至建議的扭矩值。



- 5** Finished.
完成。

Features 產品特點:

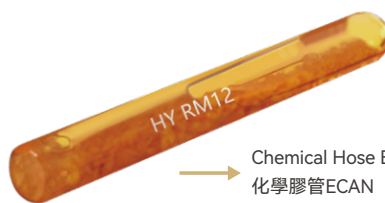
- 1、Composed of vinyl resin, quartz sand and curing agent 採用乙烯基樹脂、石英砂、固化劑構成
- 2、High tensile strength and suitable for heavy load 抗拉強度大，適合重負載
- 3、Non expansive, suitable for a variety of substrates 非膨脹性，適合多種基材
- 4、High grinding resistance, weathering resistance, aging resistance, strong acid resistance 高磨蝕性，抗風化抗老化，強抗酸性
- 5、Excellent high temperature resistance, wide construction temperature range from - 10 °C to + 40 °C
優異的耐高溫性能，施工溫度範圍廣，可從-10°C到+40°C

Chemical Anchor Bolts**化學錨栓**

Applied Base Material 適用基材: Type No. C20/25–C50/60 Concrete of Non-cracking, Natural Dense Stone
非開裂C20/25到C50/60混凝土，天然緻密石材

Fixed Range of Application 適合固定: Various Chandeliers, Ceiling Fans and Other Pendants
鋼結構、欄杆、懸臂托架、牛腿、扶梯、電纜橋架、機器設備、樓梯、貨梯、門窗、幕牆

Material Grade 材質: 304 / 316 / Steel



Chemical Hose ECAN(Hose of Vinyl Resin)
化學膠管ECAN (乙烯基樹脂化學膠管)

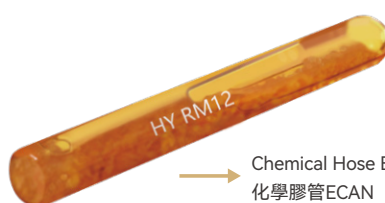
Description 描述	M8	M10	M12	M16	M20	M24	M30
Hexagonal Opposite Side 六角對邊 s(mm)	5	6	8	10	12	12	12
Total Length 總長 L(mm)	110	130	160	190	260	300	360
Hole Dia. 打孔直徑 (mm)	10	12	14	18	24	28	35
Setting Depth 埋深 (mm)	80	90	110	125	170	210	250
Tightening Torque 推薦安裝扭矩 (N·m)	10	20	40	60	120	150	200

Inverted Cone Type Chemical Anchor Bolt**倒錐形化學錨栓**

Applied Base Material 適用基材: Type No. C20/25–C50/60 Concrete of Cracking and Non-cracking, Natural Dense Stone
開裂和非開裂C20/25到C50/60混凝土，天然緻密石材

Fixed Range of Application 適合固定: Various Chandeliers, Ceiling Fans and Other Pendants
鋼結構、欄杆、懸臂托架、牛腿、扶梯、電纜橋架、機器設備、樓梯、貨梯、門窗、幕牆

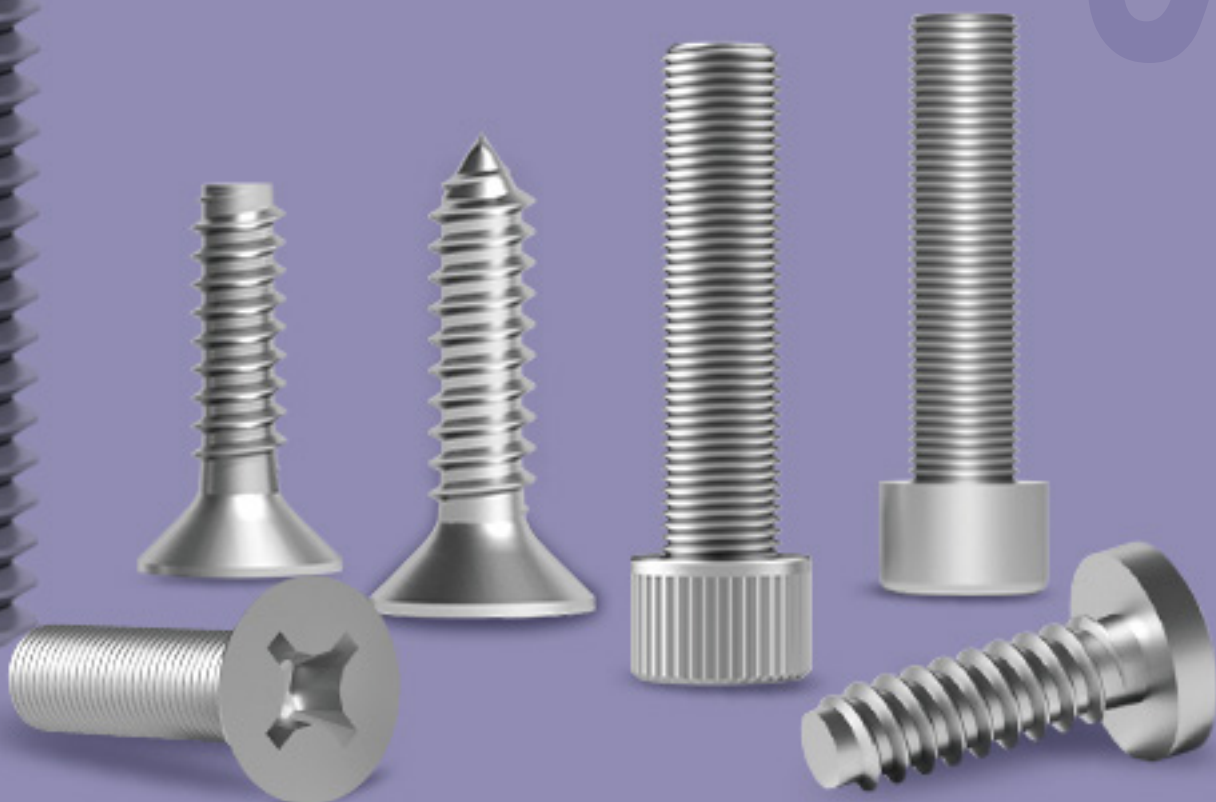
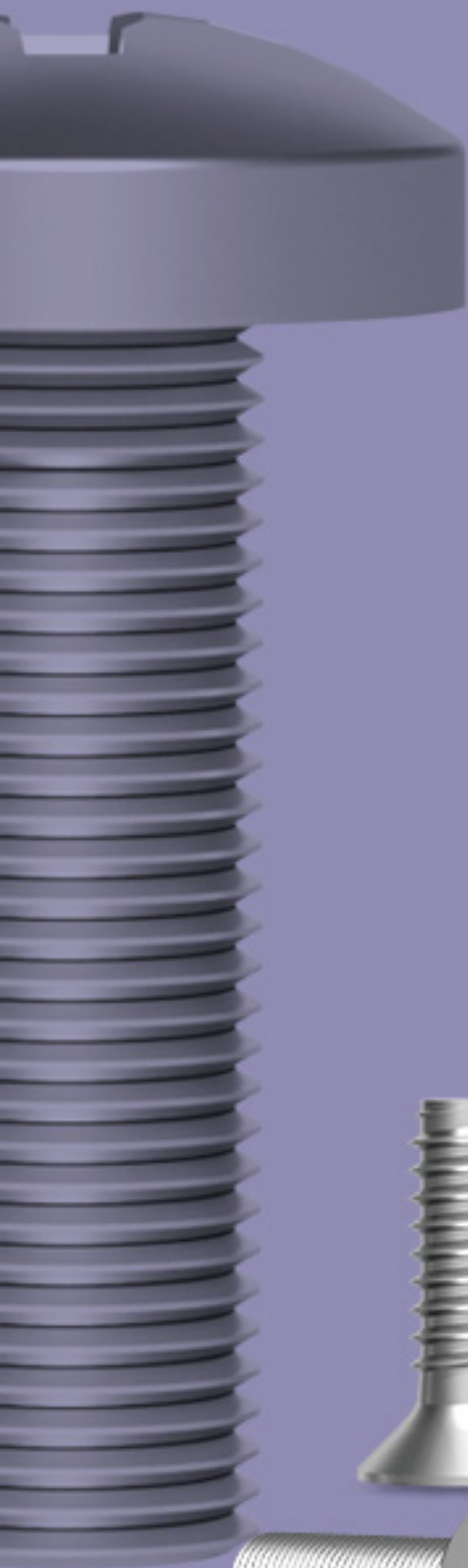
Material Grade 材質: 304 / 316



Chemical Hose ECAN(Hose of Vinyl Resin)
化學膠管ECAN (乙烯基樹脂化學膠管)

Description 描述	M8	M10	M12	M16	M20	M24	M30
Hexagonal Opposite Side 六角對邊 s(mm)	5	6	8	10	12	12	12
Total Length 總長 L(mm)	110	130	160	190	260	300	360
Hole Dia. 打孔直徑 (mm)	10	12	14	18	24	28	35
Setting Depth 埋深 (mm)	80	90	110	125	170	210	250
Tightening Torque 推薦安裝扭矩 (N·m)	10	20	40	60	120	150	200

螺釘 系列



SCREWS

Hexagon Socket Head Cap Screws

內六角圓柱頭螺釘

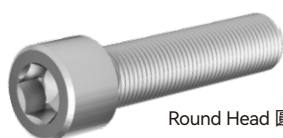
Specification 標準: DIN 912-1983

Material Standard 材料標準: ①Steel: DIN ISO 898-1; ②Stainless Steel: ISO 3506, DIN 267-11; ③Non-ferrous metal: DIN 267-18

Steel Characteristic Grade 鋼性能等級: ≤M39: 4.8, 8.8, 10.9, 12.9; > M39: According to the Agreement

Stainless Steel Characteristic Grade 不銹鋼性能等級:

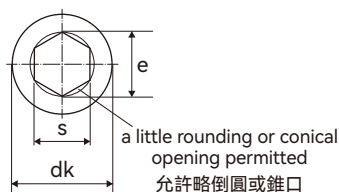
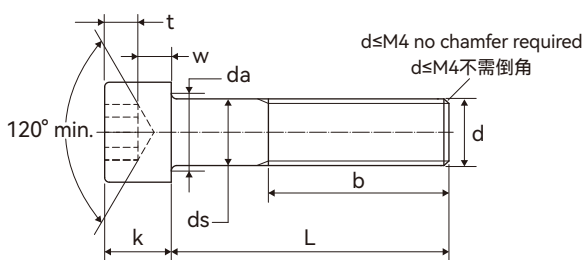
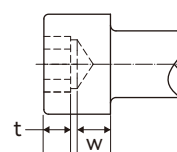
≤M20: A2-70 / A4-70; > M20≤M39: A2-50 / A4-50; ≤M39: C3; > M39: According to the Agreement



Round Head 圓頭



Knurled Head 滾花頭

Allows selection of hole type
允許選擇的孔的形式

Thread Size 螺紋規格 d		M1.4	M1.6	M2	M2.5	M3	M4
Thread Pitch 牙距 (mm)	Coarse Thread 粗牙	0.3	0.35	0.4	0.45	0.5	0.7
	Fine Thread 1 細牙1	—	—	—	—	—	—
	Fine Thread 2 細牙2	—	—	—	—	—	—
b 牙長 (mm)		14	15	16	17	18	20
dk 頭徑 (mm)	Round Head 圓頭	2.46~2.6	2.86~3	3.62~3.8	4.32~4.5	5.32~5.5	6.78~7
	Knurled Head 滾花頭	2.46~2.74	2.86~3.14	3.62~3.98	4.32~4.68	5.32~5.68	6.78~7.22
Min. e 最小對角 (mm)		1.5	1.73	1.73	2.3	2.87	3.44
k 頭厚 (mm)		1.26~1.4	1.46~1.6	1.86~2	2.36~2.5	2.86~3	3.82~4
s 對邊 (mm)		1.32~1.36	1.52~1.56	1.52~1.56	2.02~2.06	2.52~2.58	3.02~3.08
Min. t 最小孔深 (mm)		0.6	0.7	1	1.1	1.3	2
Thread Size 螺紋規格 d		M5	M6	M8	M10	M12	M14
Thread Pitch 牙距 (mm)	Coarse Thread 粗牙	0.8	1	1.25	1.5	1.75	2
	Fine Thread 1 細牙1	—	—	1	1.25	1.25	1.5
	Fine Thread 2 細牙2	—	—	—	1	1.5	—
b 牙長 (mm)		22	24	28	32	36	40
dk 頭徑 (mm)	Round Head 圓頭	8.28~8.5	9.78~10	12.73~13	15.73~16	17.73~18	20.67~21
	Knurled Head 滾花頭	8.28~8.72	9.78~10.22	12.73~13.27	15.73~16.27	17.73~18.27	20.67~21.33
Min. e 最小對角 (mm)		4.58	5.72	6.86	9.15	11.43	13.72
k 頭厚 (mm)		4.82~5	5.7~6	7.64~8	9.64~10	11.57~12	13.57~14
s 對邊 (mm)		4.02~4.095	5.02~5.14	6.02~6.14	1.32~1.36	1.52~1.56	1.52~1.56
Min. t 最小孔深 (mm)		2.5	3	4	5	6	7
Thread Size 螺紋規格 d		M16	M18	M20	M22	M24	M27
Thread Pitch 牙距 (mm)	Coarse Thread 粗牙	2	2.5	2.5	2.5	3	3
	Fine Thread 1 細牙1	1.5	1.5	1.5	1.5	2	2
	Fine Thread 2 細牙2	—	2	2	2	—	—
b 牙長 (mm)		44	48	52	56	60	66
dk 頭徑 (mm)	Round Head 圓頭	23.67~24	26.67~27	29.67~30	32.61~33	35.61~36	39.61~40
	Knurled Head 滾花頭	23.67~24.33	26.67~27.33	29.67~30.33	32.61~33.39	35.61~36.39	39.61~40.39
Min. e 最小對角 (mm)		16	16	19.44	19.44	21.73	21.73
k 頭厚 (mm)		15.57~16	17.57~18	19.48~20	21.48~22	23.48~24	26.48~27
s 對邊 (mm)		2.02~2.06	2.52~2.58	3.02~3.08	17.05~17.23	19.07~19.28	19.07~19.28
Min. t 最小孔深 (mm)		8	9	10	11	12	13.5

Hexagon Socket Head Cap Screws (Continued)

內六角圓柱頭螺釘 (續)

Thread Size 螺紋規格 d		M30	M33	M36	M42	M48	M56
Thread Pitch 牙距 (mm)	Coarse Thread 粗牙	3.5	3.5	4	4.5	5	5.5
	Fine Thread 1 細牙1	2	2	3	3	3	4
	Fine Thread 2 細牙2	—	—	—	—	—	—
b 牙長 (mm)		72	78	84	96	108	124
dk 頭徑 (mm)	Round Head 圓頭	44.61~45	49.61~50	53.54~54	62.54~63	71.54~72	83.46~84
	Knurled Head 滾花頭	44.61~45.39	49.61~50.39	53.54~54.46	62.54~63.46	71.54~72.46	83.46~84.54
Min. e 最小對角 (mm)		25.15	27.43	30.85	36.57	41.13	46.83
k 頭厚 (mm)		29.48~30	32.38~33	35.38~36	41.38~42	47.38~48	55.26~56
s 對邊 (mm)		22.07~22.28	24.07~24.28	27.07~27.28	32.08~32.33	36.08~36.33	41.08~41.33
Min. t 最小孔深 (mm)		15.5	18	19	24	28	34
Thread Size 螺紋規格 d		M64	M72	M80	M90	M100	
Thread Pitch 牙距 (mm)	Coarse Thread 粗牙	6	6	6	6	6	
	Fine Thread 1 細牙1	4	4	4	4	4	
	Fine Thread 2 細牙2	—	—	—	—	—	
b 牙長 (mm)		140	156	172	192	212	
dk 頭徑 (mm)	Round Head 圓頭	95.46~96	107.46~108	119.46~120	134.37~135	149.37~150	
	Knurled Head 滾花頭	95.46~96.54	107.46~108.54	119.46~120.54	134.37~135.63	149.37~150.63	
Min. e 最小對角 (mm)		52.53	62.81	74.21	85.61	97.04	
k 頭厚 (mm)		63.26~64	71.26~72	79.26~80	89.13~90	99.13~100	
s 對邊 (mm)		46.08~46.33	55.1~55.4	65.1~65.4	75.1~75.4	85.12~85.47	
Min. t 最小孔深 (mm)		38	43	48	54	60	

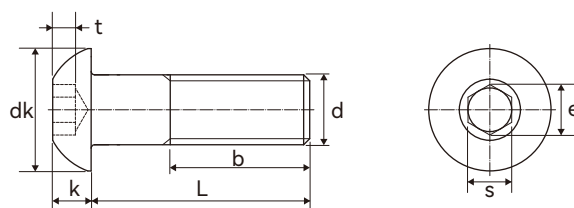
Hexagon Socket Button Head Screws

內六角圓頭螺釘

Specification 標準: ISO 7380-1-2011

Characteristic Grade 性能等級: 8.8 / 10.9 / 12.9, A2 / A4

Material Grade 材質: Steel, Stainless Steel



Thread Size 螺紋規格 d	M3	M4	M5	M6	M8	M10	M12	M16
Thread Pitch 牙距 (mm)	0.5	0.7	0.8	1.0	1.25	1.5	1.75	2
b 牙長 (mm)	18	20	22	24	28	32	36	44
dk 頭徑 (mm)	5.4~5.7	7.24~7.6	9.14~9.5	10.07~10.5	13.57~14	17.07~17.5	20.48~21	27.48~28
Min. e 最小對角 (mm)	2.303	2.873	3.443	4.583	5.723	6.863	9.149	11.429
k 頭厚 (mm)	1.40~1.65	1.95~2.20	2.50~2.75	3.0~3.3	4.1~4.4	5.2~5.5	6.24~6.60	8.44~8.80
s 對邊 (mm)	2.02~2.08	2.52~2.58	3.02~3.08	4.02~4.095	5.02~5.14	6.02~6.14	8.03~8.18	10.03~10.18
Min. t 最小孔深 (mm)	1.04	1.3	1.56	2.08	2.6	3.12	4.16	5.2

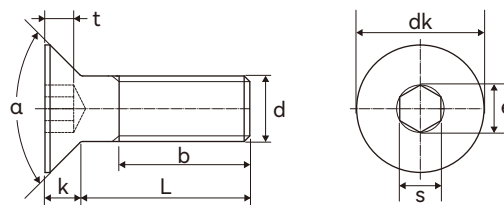
Hexagon Socket Countersunk Head Screws

內六角沉頭螺釘

Specification 標準: DIN 7991-1986

Characteristic Grade 性能等級: 8.8 / 10.9 / 12.9, A2 / A4

Material Grade 材質: Steel, Stainless Steel



Thread Size 螺紋規格 d		M3	M4	M5	M6	M8	M10	M12
Thread Pitch 牙距 (mm)		0.5	0.7	0.8	1.0	1.25	1.5	1.75
b 牙長 (mm)	L ≤ 125	12	14	16	18	22	26	30
	125 < L ≤ 200	—	—	—	24	28	32	36
	L > 200	—	—	—	—	—	45	49
dk 頭徑 (mm)		5.7~6	7.64~8	9.64~10	11.57~12	15.57~16	19.48~20	23.48~24
Min. e 最小對角 (mm)		2.3	2.87	3.44	4.58	5.72	6.86	9.15
Max. k 最大頭厚 (mm)		1.7	2.3	2.8	3.3	4.4	5.5	6.5
s 對邊 (mm)		2.02~2.1	2.52~2.6	3.02~3.1	4.02~4.12	5.02~5.14	6.02~6.14	8.03~8.18
t 孔深 (mm)		0.95~1.2	1.55~1.8	2.05~2.3	2.25~2.5	3.2~3.5	4.1~4.4	4.3~4.6
α tol.(+2)		90°	90°	90°	90°	90°	90°	90°
Thread Size 螺紋規格 d		M14	M16	M18	M20	M22	M24	
Thread Pitch 牙距 (mm)		2	2	2.5	46	50	54	
b 牙長 (mm)	L ≤ 125	34	38	42	52	56	60	
	125 < L ≤ 200	40	44	48	65	69	73	
	L > 200	53	57	61	—	—	45	
dk 頭徑 (mm)		26.48~27	29.48~30	32.38~33	35.38~36	35.38~36	38.38~39	
Min. e 最小對角 (mm)		11.43	11.43	13.72	13.72	16	16	
Max. k 最大頭厚 (mm)		7	7.5	8	8.5	13.1	14	
s 對邊 (mm)		10.03~10.18	10.03~10.18	12.03~12.21	12.03~12.21	14.03~14.21	14.03~14.21	
t 孔深 (mm)		4.5~4.8	5~5.3	5.2~5.5	5.6~5.9	8.44~8.8	9.87~10.3	
α tol.(+2)		90°	90°	90°	90°	60°	60°	

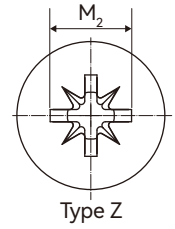
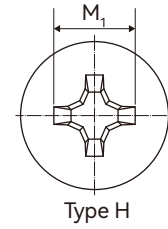
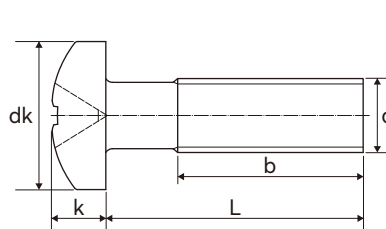
Cross Recessed Pan Head Screws

十字槽盤頭螺釘

Specification 標準: GB 818-1985

Characteristic Grade 性能等級: 4.8, A2-50 / A2-70, CU2 / CU3, AL4

Material Grade 材質: Steel, Stainless Steel, Copper



Thread Size 螺紋規格 d	M1.6	M2	M2.5	M3	M4	M5	M6	M8	M10
Thread Pitch 牙距 (mm)	0.35	0.4	0.45	0.5	0.7	0.8	1.0	1.25	1.5
Min. b 最小牙長 (mm)	25	25	25	25	38	38	38	38	38
dk 頭徑 (mm)	2.9~3.2	3.7~4	4.7~5	5.3~5.6	7.64~8	9.14~9.5	11.57~12	15.57~16	19.48~20
k 頭厚 (mm)	1.16~1.3	1.46~1.6	1.96~2.1	2.26~2.4	2.92~3.1	3.52~3.7	4.3~4.6	5.7~6	7.14~7.5
Slot Number 槽號	0	0	1	1	2	2	3	4	4
L 長度 (mm)	3~16	3~20	3~25	4~30	5~40	6~45	8~60	10~60	12~60

Note 備註:

Steel cross recessed pan head screws are grade 4.8, which are commonly used. Two types to choose from electro zinc plating-blue white and color-zinc.

碳鋼十字盤頭螺釘均是4.8級，也是比較常用的普通螺絲，有電鍍藍白鋅和彩鋅兩種類型可供選擇。

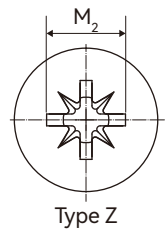
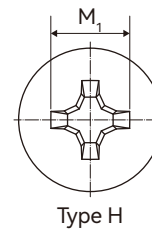
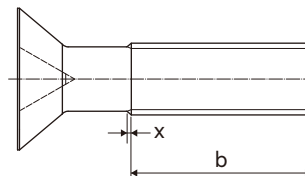
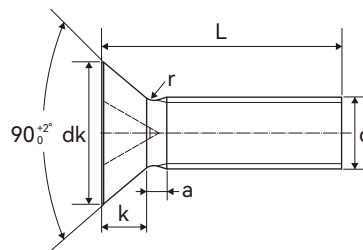
Cross Recessed Countersunk Head Screws

十字槽沉頭螺釘

Specification 標準: GB 819-1985

Characteristic Grade 性能等級: 4.8, A2-70 / A4-70

Material Grade 材質: Steel, Stainless Steel



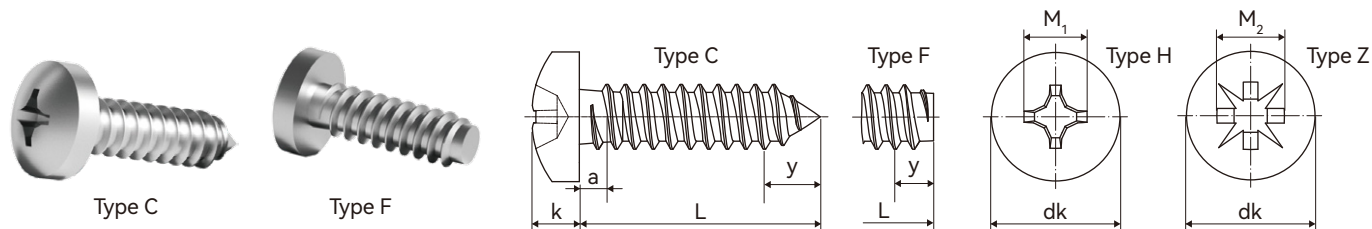
Thread Size 螺紋規格 d	M1.6	M2	M2.5	M3	M4	M5	M6	M8	M10
Thread Pitch 牙距 (mm)	0.35	0.4	0.45	0.5	0.7	0.8	1.0	1.25	1.5
Max. a (mm)	0.7	0.8	0.9	1.0	1.4	1.6	2.0	2.5	3.0
Min. b 最小牙長 (mm)	25	25	25	25	38	38	38	38	38
dk 頭徑 (mm)	Max. Theoretical Value 最大理論值	3.6	4.4	5.5	6.3	9.4	10.4	12.6	17.3
	Actual Value 實際值	2.7~3	3.5~3.8	4.4~4.7	5.2~5.5	8~8.4	8.9~9.3	10.9~11.3	15.4~15.8
Max. k 最大頭厚 (mm)	1	1.2	1.5	1.65	2.7	2.7	3.3	4.65	5
Max. x (mm)	0.9	1	1.1	1.25	1.75	2	2.5	3.2	3.8
Slot Number 槽號	0	0	1	1	2	2	3	4	4
M ₁ (mm)	1.6	1.9	2.9	3.2	4.6	5.2	6.8	8.9	10
M ₂ (mm)	1.8	2.0	3.0	3.2	4.6	5.1	6.8	9	10
L 長度 (mm)	3~16	3~20	3~25	4~30	5~40	6~45	8~60	10~60	12~60

Cross Recessed Pan Head Tapping Screws

十字槽盤頭自攻螺釘

Specification 標準: GB/T 845-1985

Material and Characteristic Grade 材料和性能等級: Steel: — Stainless Steel: A2-20H / A4-20H / A5-20H



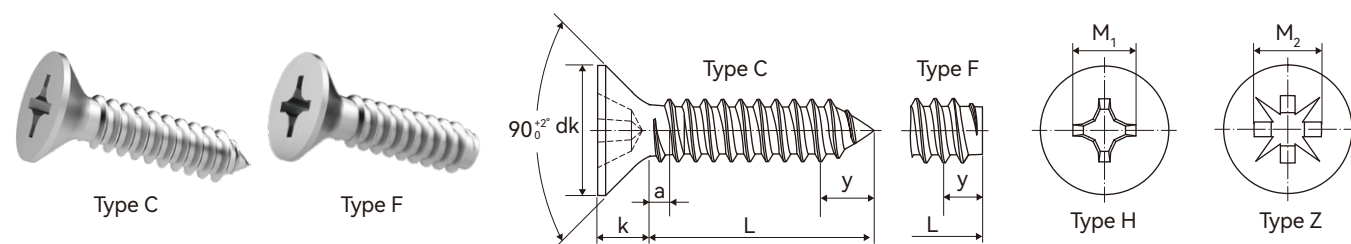
Thread Size 螺紋規格 d	ST2.2	ST2.9	ST3.5	ST4.2	ST4.8	ST5.5	ST6.3	ST8	ST9.5
Thread Pitch 牙距 (mm)	0.8	1.1	1.3	1.4	1.6	1.8	1.8	2.1	2.1
Max. a (mm)	0.8	1.1	1.3	1.4	1.6	1.8	1.8	2.1	2.1
dk 頭徑 (mm)	3.7~4	5.3~5.6	6.64~7	7.64~8	9.14~9.5	10.57~11	11.57~12	15.57~16	19.48~20
k 頭厚 (mm)	1.4~1.6	2.15~2.4	2.35~2.6	2.8~3.1	3.4~3.7	3.7~4	4.3~4.6	5.6~6	7.1~7.5
Slot Number 槽號	0	1	2	2	2	3	3	4	4
Type H	M ₁ (mm)	1.9	3	3.9	4.4	4.9	6.4	9	10.1
	Depth 深度 (mm)	0.85~1.2	1.4~1.8	1.4~1.9	1.9~2.4	2.4~2.9	2.6~3.1	3.1~3.6	4.15~4.7
Type Z	M ₂ (mm)	2	3	4	4.4	4.8	6.2	8.9	10.1
	Depth 深度 (mm)	0.95~1.2	1.45~1.75	1.5~1.9	1.95~2.35	2.3~2.75	2.55~3	3.05~3.5	4.05~4.5
y (mm)	Type C	2.0	2.6	3.2	3.7	4.3	5.0	7.5	8.0
	Type F	1.6	2.1	2.5	2.8	3.2	3.6	4.2	4.2

Cross Recessed Countersunk Head Tapping Screws

十字槽沉頭自攻螺釘

Specification 標準: GB/T 846-1985

Material and Characteristic Grade 材料和性能等級: Steel: — Stainless Steel: A2-20H / A4-20H / A5-20H



Thread Size 螺紋規格 d	ST2.2	ST2.9	ST3.5	ST4.2	ST4.8	ST5.5	ST6.3	ST8	ST9.5
Thread Pitch 牙距 (mm)	0.8	1.1	1.3	1.4	1.6	1.8	1.8	2.1	2.1
Max. a (mm)	0.8	1.1	1.3	1.4	1.6	1.8	1.8	2.1	2.1
dk 頭徑 (mm)	3.5~3.8	5.2~5.5	6.9~7.3	8~8.4	8.9~9.3	9.9~10.3	10.9~11.3	15.4~15.8	17.8~18.3
Max. k 最大頭厚 (mm)	1.1	1.7	2.35	2.6	2.8	3	3.15	4.65	5.25
Slot Number 槽號	0	1	2	2	2	3	3	4	4
Type H	M ₁ (mm)	1.9	3.2	4.4	4.6	5.2	6.6	8.9	10
	Depth 深度 (mm)	0.9~1.2	1.7~2.1	1.9~2.4	2.1~2.6	2.7~3.2	2.8~3.3	3.0~3.5	4.0~4.6
Type Z	M ₂ (mm)	2	3.2	4.3	4.6	5.1	6.5	9	10
	Depth 深度 (mm)	0.95~1.2	1.6~2	1.75~2.2	2.05~2.5	2.6~3.05	2.75~3.2	3.0~3.45	4.15~4.6
y (mm)	Type C	2.0	2.6	3.2	3.7	4.3	5.0	7.5	8.0
	Type F	1.6	2.1	2.5	2.8	3.2	3.6	4.2	4.2

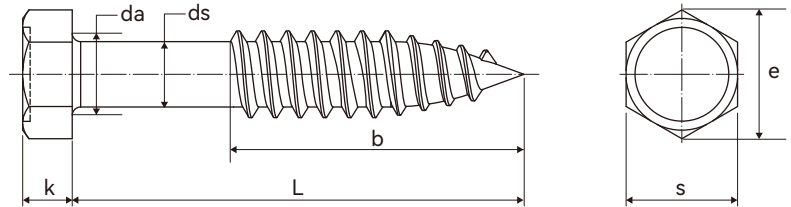
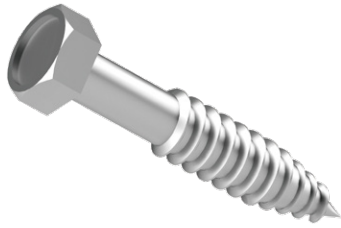
Hexagon Head Wood Screws

六角頭木螺釘

Specification 標準: DIN 571-2016

Material and Characteristic Grade 材料和性能等級:

①Steel: Grade at the Manufacturer's Discretion ②Stainless Steel: A2~A5: 20H / 25H ③Non-ferrous metal: CuZn = Copper-zinc-alloy



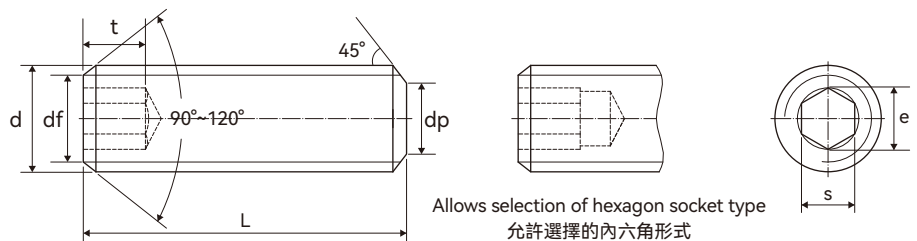
Thread Size 螺紋規格	4	5	6	7	8	10	12	16	20
ds (mm)	3.52~4	4.52~5	5.52~6	6.42~7	7.42~8	9.42~10	11.3~12	15.3~16	19.3~20
Max. da (mm)	5	6	7.2	8.2	10.2	12.2	15.2	19.2	24.4
k 頭厚 (mm)	2.5~3.1	3.13~3.88	3.63~4.38	4.63~5.38	5.13~5.88	6.55~7.45	7.55~8.45	9.55~10.45	12.1~13.9
s 對邊 (mm)	6.64~7	7.64~8	9.64~10	11.57~12	12.57~13	16.57~17	18.48~19	23.16~24	29.16~30
Min. e 最小對角 (mm)	7.5	8.63	10.89	13.07	14.2	18.72	20.88	26.17	32.95

Hexagon Socket Set Screws with Flat Point

內六角平端緊定螺釘

Specification 標準: DIN913-1980

Material and Characteristic Grade 性能等級: Steel: 45H Stainless Steel: A2 / A4 / C3 Non-ferrous metal: CU2 / CU3 / AL4



Thread Size 螺紋規格 d		M1.4	M1.6	M1.8	M2	M2.5	M3	M4	M5	M6
Thread Pitch 牙距 (mm)		0.3	0.35	0.35	0.4	0.45	0.5	0.7	0.8	1
dp (mm)		0.45~0.7	0.55~0.8	0.65~0.9	0.75~1	1.25~1.5	1.75~2	2.25~2.5	3.2~3.5	3.7~4
Min. e 最小對角 (mm)		0.803	0.803	0.803	1.003	1.427	1.73	2.3	2.87	3.44
s 對邊 (mm)		0.711~0.724	0.711~0.724	0.711~0.724	0.889~0.902	1.27~1.295	1.52~1.545	2.02~2.045	2.52~2.56	3.02~3.08
Min. t (mm)	Short Screw 短螺釘	0.6	0.7	0.8	0.8	1.2	1.2	1.5	2	2
	Long Screw 長螺釘	1.4	1.5	1.6	1.7	2	2	2.5	3	3.5
L 長度 (mm)		2.5~6	2.5~6	2.5~6	3~10	3~10	3~20	4~20	5~25	6~35
Thread Size 螺紋規格 d		M8	M10	M12	M14	M16	M18	M20	M22	M24
Thread Pitch 牙距 (mm)		1.25	1.5	1.75	2	2	2.5	2.5	2.5	3
dp (mm)		5.2~5.5	6.64~7	8.14~8.5	9.64~10	11.57~12	12.57~13	14.57~15	16.57~17	17.57~18
Min. e 最小對角 (mm)		4.58	5.72	6.86	6.86	9.15	11.43	11.43	13.72	13.72
s 對邊 (mm)		4.02~4.095	5.02~5.095	6.02~6.095	6.02~6.095	8.025~8.115	10.025~10.115	10.025~10.115	12.032~12.142	12.032~12.142
Min. t (mm)	Short Screw 短螺釘	3	4	4.8	5.6	6.4	7.2	8	9	10
	Long Screw 長螺釘	5	6	8	9	10	11	12	13.5	15
L 長度 (mm)		8~40	12~40	16~40		20~40		20~50		25~60

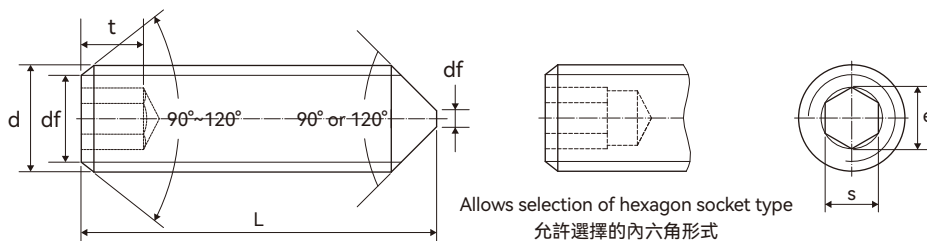
Hexagon Socket Set Screws with Cone Point

內六角尖端緊定螺釘

Specification 標準: DIN914-1980

Steel Characteristic Grade 鋼性能等級: 45H

Stainless Steel Characteristic Grade 不銹鋼性能等級: ≤M20: A2-70; > M20: A2-50; A4; C3



Thread Size 螺紋規格 d	M1.4	M1.6	M1.8	M2	M2.5	M3	M4	M5	M6
Thread Pitch 牙距 (mm)	0.3	0.35	0.35	0.4	0.45	0.5	0.7	0.8	1
dt (mm)	—	—	—	—	—	—	—	—	0.9~1.5
Min. e 最小對角 (mm)	0.803	0.803	0.803	1.003	1.427	1.73	2.3	2.87	3.44
s 對邊 (mm)	0.711~0.724	0.711~0.724	0.711~0.724	0.889~0.902	1.27~1.295	1.52~1.545	2.02~2.045	2.52~2.56	3.02~3.08
Min. t (mm)									
Short Screw 短螺釘	0.6	0.7	0.8	0.8	1.2	1.2	1.5	2	2
Long Screw 長螺釘	1.4	1.5	1.6	1.7	2	2	2.5	3	3.5
L 長度 (mm)	2.5~6	2.5~6	2.5~6	3~10	4~10	4~20	5~20	6~25	8~35
Thread Size 螺紋規格 d	M8	M10	M12	M14	M16	M18	M20	M22	M24
Thread Pitch 牙距 (mm)	1.25	1.5	1.75	2	2	2.5	2.5	2.5	3
dt (mm)	1.4~2	1.9~2.5	2.4~3	3.25~4	3.25~4	4.25~5	4.25~5	5.25~6	5.25~6
Min. e 最小對角 (mm)	4.58	5.72	6.86	6.86	9.15	11.43	11.43	13.72	13.72
s 對邊 (mm)	4.02~4.095	5.02~5.095	6.02~6.095	6.02~6.095	8.025~8.115	10.025~10.115	10.025~10.115	12.032~12.142	12.032~12.142
Min. t (mm)									
Short Screw 短螺釘	3	4	4.8	5.6	6.4	7.2	8	9	10
Long Screw 長螺釘	5	6	8	9	10	11	12	13.5	15
L 長度 (mm)	10~40	12~40	16~40		20~40		25~50		30~60

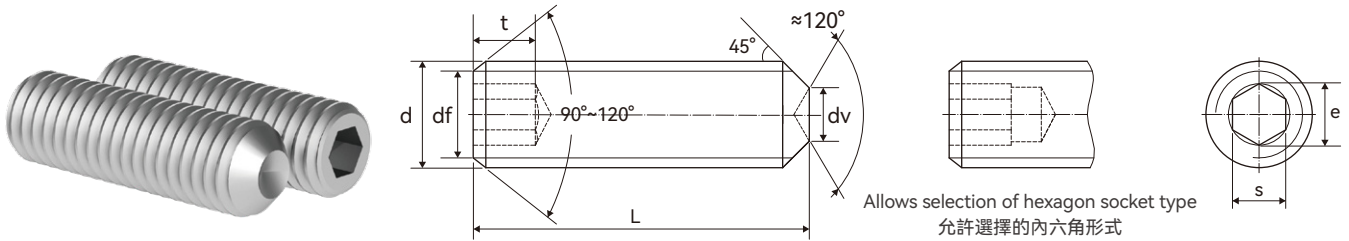
Hexagon Socket Set Screws With Cup Point

內六角凹緊定螺釘

Specification 標準: DIN916-1980

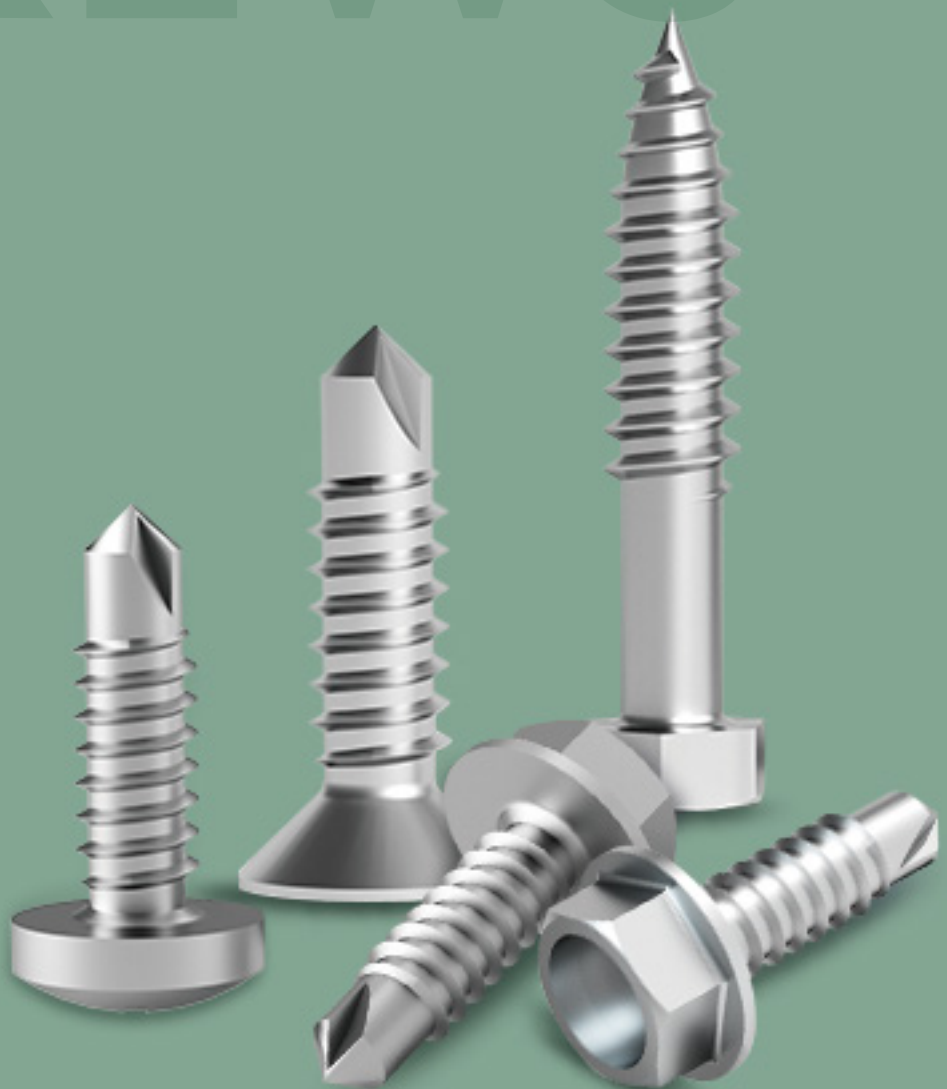
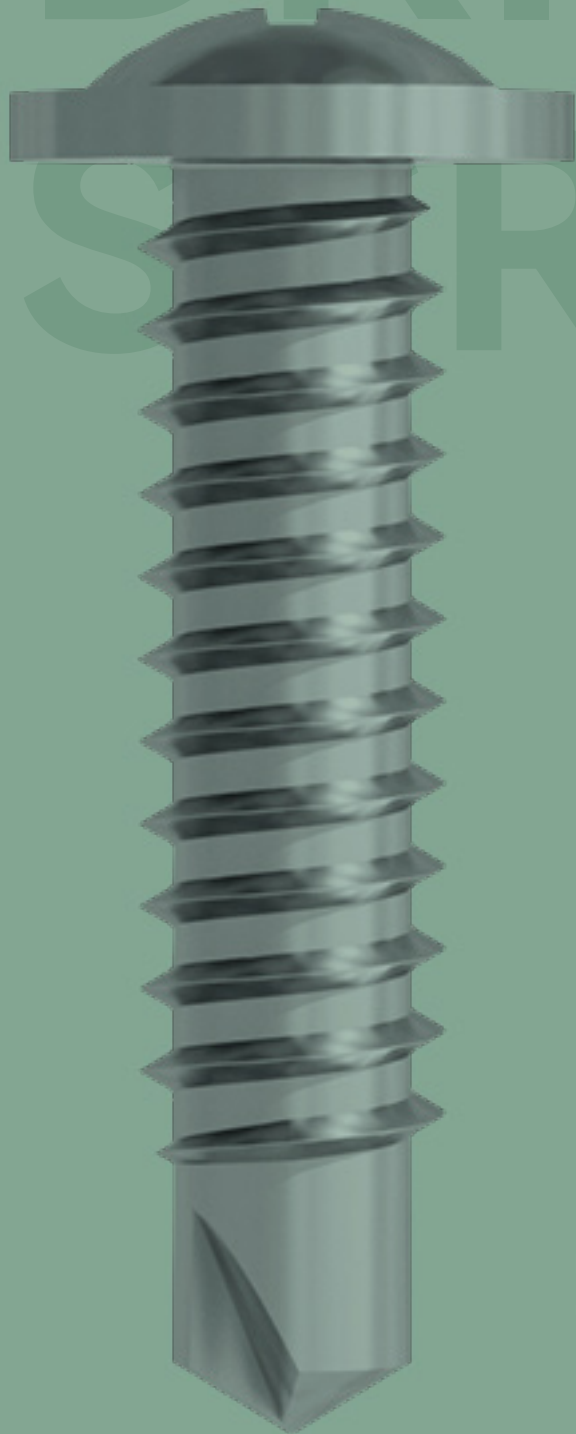
Steel Characteristic Grade 鋼性能等級: 45H

Stainless Steel Characteristic Grade 不銹鋼性能等級: ≤M20: A2-70; > M20: A2-50; A4; C3



Thread Size 螺紋規格 d	M1.4	M1.6	M1.8	M2	M2.5	M3	M4	M5	M6
Thread Pitch 牙距 (mm)	0.3	0.35	0.35	0.4	0.45	0.5	0.7	0.8	1
dv (mm)	0.45~0.7	0.55~0.8	0.65~0.9	0.75~1	0.95~1.2	1.15~1.4	1.75~2	2.25~2.5	2.75~3
Min. e 最小對角 (mm)	0.803	0.803	0.803	1.003	1.427	1.73	2.3	2.87	3.44
s 對邊 (mm)	0.711~0.724	0.711~0.724	0.711~0.724	0.889~0.902	1.27~1.295	1.52~1.545	2.02~2.045	2.52~2.56	3.02~3.08
Min. t (mm)									
Short Screw 短螺釘	0.6	0.7	0.8	0.8	1.2	1.2	1.5	2	2
Long Screw 長螺釘	1.4	1.5	1.6	1.7	2	2	2.5	3	3.5
L 長度 (mm)	2.5~6	2.5~6	2.5~6	3~10	3~10	4~20	4~20	5~25	6~35
Thread Size 螺紋規格 d	M8	M10	M12	M14	M16	M18	M20	M22	M24
Thread Pitch 牙距 (mm)	1.25	1.5	1.75	2	2	2.5	2.5	2.5	3
dv (mm)	4.7~5	5.7~6	7.64~8	8.64~9	9.64~10	11.57~12	13.57~14	15.57~16	15.57~16
Min. e 最小對角 (mm)	4.58	5.72	6.86	6.86	9.15	11.43	11.43	13.72	13.72
s 對邊 (mm)	4.02~4.095	5.02~5.095	6.02~6.095	6.02~6.095	8.025~8.115	10.025~10.115	10.025~10.115	12.032~12.142	12.032~12.142
Min. t (mm)									
Short Screw 短螺釘	3	4	4.8	5.6	6.4	7.2	8	9	10
Long Screw 長螺釘	5	6	8	9	10	11	12	13.5	15
L 長度 (mm)	8~40	12~40	16~40		20~40		20~40		30~60

鑽尾 螺釘



Material Grade 材質: 304 / 316 / 410 / Composite Material

Standard 標準: Germany Standard / Chinese Standard / American Standard

Head Type 頭型: Pan Head / Countersunk Head / Hexagon Head / Round Head Washer / Flat Head Inner Hexagon
盤頭、沉頭、六角頭、圓頭華司、平頭內六角

Advantage 優點:

1、The surface hardness of 410 series is 580-750HV, with high strength and strong tapping and drilling.

410系列表面硬度580-750HV，强度高，攻鑽強。

2、The core of 410 series has a hardness of 350HV-450HV, good toughness and a bending degree of more than 15%.

410芯部硬度350HV-450HV，韌性好，彎曲度15%以上。

3、Advanced blade design of Taiwan, good position, high sharpness.

台灣先進的刀頭設計，定位好，鋒利度高。

4、We sell all kinds of non-standard head type, cutter tail. The maximum capacity is ST8 specification, length is 400mm, tapping 20mm steel plate.

各類非標頭型、刀尾，最大可生產ST8規格，長度400mm，可攻20mm鋼板。

5、Various surface treatments can meet up to 2000 hours of neutral salt spray test and 25 acid rain cycles.

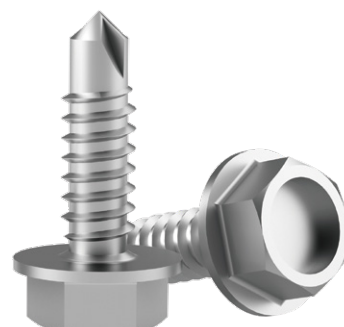
各類表面處理，最高可滿足2000小時中性鹽霧試驗、25個酸雨循環。

6、Sufficient material, stable process, reliable performance.

用料足，工藝穩定，性能可靠。

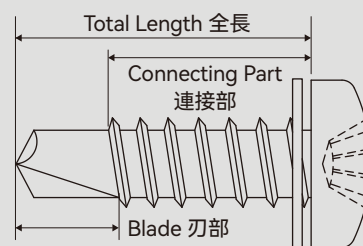
Tapping Plate Thickness Application of Tail 頭型標準對照表:

Head Type 頭型		德國標準	國際標準	中國標準	日本標準
Cross Recessed Pan Head Self Drilling Screws 十字盤頭鑽尾螺釘		DIN 7504(N)	ISO 15481	GB 15856.1	JIS 1124
Cross Recessed Countersunk Head Self Drilling Screws 十字沉頭鑽尾螺釘		DIN 7504(P)	ISO 15482	GB 15856.2	
Hexagon Flange Head Self Drilling Screws 六角法蘭面鑽尾螺釘		DIN 7504(K)	ISO 15480	GB 15856.4	



Blade selection: when the total length of the connecting part and blade is less than or equal to 13mm, choose No.1 tail; when the length is 16 to 19mm, choose No.2 tail; when the length is more than 19mm, choose No.3 tail. It will also be adjusted according to the actual use of screws.

刀頭選型：一般連接部加刀刃總長小於等於13mm時選用1號尾，長度16~19mm時選用2號尾，長度19mm以上選用3號尾，但是也會根據螺絲實際使用做調整。



Length Standard of Drill Tail Blade 鑽尾刀刃長度標準:

Thread Size 螺紋規格	ST2.9 #4-24	ST3.5 #6-20	ST3.9 #7-19	ST4.2 #8-18	ST4.8 #10-16	ST4.8 #10-24	ST5.5 #12-24	ST5.5 #12-14	ST6.3 #14-14	ST6.3 #14-20
Width of Tail 鑽尾寬 (mm)	2.3~2.5	2.9~3.1	3.05~3.2	3.4~3.6	4.0~4.2	4.2~4.4	4.65~4.85	4.9~5.1	5.5~5.7	5.65~5.85
No.1 Tail 1號尾 (mm)	2.3 min.	2.8 min.	2.8 min.	3.5 min.	4.5 min.		5.2 min.		6.0 min.	
No.2 Tail 2號尾 (mm)	2.8 min.	3.5 min.	3.5 min.	4.0 min.	5.2 min.		6.0 min.		7.2 min.	
No.3 Tail 3號尾 (mm)		4.2 min.	4.2 min.	5.0 min.	6.0 min.		7.2 min.		8.0 min.	
No.4 Tail 4號尾 (mm)				6.0 min.	7.2 min.		10.5 min.		10.5 min.	
No.5 Tail 5號尾 (mm)					8.7 min.		13.5 min.		13.5 min.	
No.6 Tail 6號尾 (mm)							15.8 min.		15.8 min.	
No.7 Tail 7號尾 (mm)							17.8 min.		17.8 min.	



Tapping Plate Thickness Application of Tail 鑽尾可攻板厚:

Material 材質	Tapping Plate Application 可攻板	ST3.5	ST3.9	ST4.2	ST4.8	ST5.5	ST6.3
304/316	Aluminum Plate 鋁板	2mm	2.5mm	3mm	4mm	5mm	6mm
	Board 木板	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
410	Iron Plate, Aluminum Plate 鐵板、鋁板	2mm	2.5mm	3mm	4mm	5mm	6mm
	Stainless Steel Plate 不銹鋼板	Customized	Customized	Customized	Customized	Customized	Customized

Note 備註:

- The drilling tail is normally No. 3 tail, and the above table shows the total recommended tapping thickness of No. 3 tail.
- The tapping plate thickness of No.1 tail is 1.5mm less than that of No. 3 tail, and the tapping plate thickness of No.2 tail is 1mm less than that of No.3 tail.
- The screw can be customized if the plate is non-standard and super thick. It can tap on an iron plate with a maximum thickness of 20mm.
- If tapping the stainless steel plate, you need to inform the plate thickness in advance or provide the plate.

- 鑽尾正常為3號尾，以上表格為3號尾鑽尾建議攻鑽總厚度。
- 1號尾可攻板厚較3號尾減1.5mm，2號尾可攻板厚較3號尾減1mm。
- 非標超厚板接受定制，最厚可攻20mm厚鐵板。
- 攻不銹鋼板，需要提前告知板厚，或是提供板材。

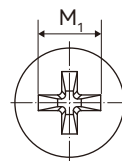
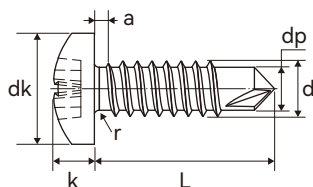
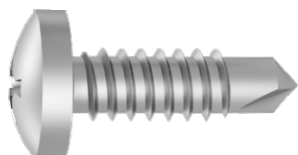
Cross Recessed Pan Head Self Drilling Screws

十字槽盤頭鑽尾螺釘

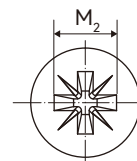
Specification 標準: DIN 7504(N)-1982

Material Standard 材料標準:

To be manufactured from specified DIN 17210 case-hardening steel or specified DIN17200 heat-treatable steel, or other equivalent materials. 採用DIN 17210規定的表面硬化鋼或DIN 17200規定的可熱處理鋼製造, 也可採用其他等效材料。



Type H



Type Z

Thread Size 螺紋規格	ST3.5	ST3.9	ST4.2	ST4.8	ST5.5	ST6.3
Thread Pitch 牙距 (mm)	1.3	1.3	1.4	1.6	1.8	1.8
Max. a (mm)	1.3	1.3	1.4	1.6	1.8	1.8
dk 頭徑 (mm)	6.54~6.9	7.14~7.5	7.84~8.2	9.14~9.5	10.37~10.8	12.07~12.5
k 頭厚 (mm)	2.35~2.6	2.55~2.8	2.75~3.05	3.25~3.55	3.65~3.95	4.25~4.55
Max. r (mm)	0.5	0.5	0.6	0.7	0.8	0.9
R [≈]	5.4	5.8	6.2	7.2	8.2	9.5
Slot Number 槽號	2	2	2	2	3	3
M ₁ (mm) [≈]	4.2	4.4	4.6	5	6.5	7.1
M ₂ (mm) [≈]	3.9	4.1	4.3	4.7	6.2	6.7
Max. dp (mm)	2.8	3.1	3.6	4.1	4.8	5.8
Drilling Range / Plate Thickness 鑽削範圍 / 板厚 (mm)	0.7~2.25	0.7~2.4	1.75~3	1.75~4.4	1.75~5.25	2~6

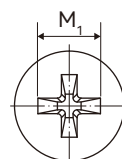
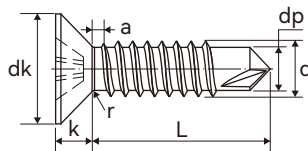
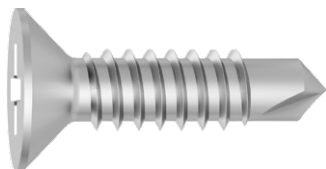
Cross Recessed Countersunk Head Self Drilling Screws

十字槽沉頭鑽尾螺釘

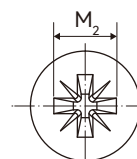
Specification 標準: DIN 7504(P)-1982

Material Standard 材料標準:

To be manufactured from specified DIN 17210 case-hardening steel or specified DIN17200 heat-treatable steel, or other equivalent materials. 採用DIN 17210規定的表面硬化鋼或DIN 17200規定的可熱處理鋼製造, 也可採用其他等效材料。



Type H



Type Z

Thread Size 螺紋規格	ST2.9	ST3.5	ST3.9	ST4.2	ST4.8	ST5.5	ST6.3
Thread Pitch 牙距 (mm)	1.1	1.3	1.3	1.4	1.6	1.8	1.8
Max. a (mm)	1.1	1.3	1.3	1.4	1.6	1.8	1.8
dk 頭徑 (mm)	5.2~5.5	6.44~6.8	7.14~7.5	7.74~8.1	9.14~9.5	10.37~10.8	11.97~12.4
k 頭厚 (mm) [≈]	1.7	2.1	2.3	2.5	3	3.4	3.8
Max. r (mm)	1.1	1.4	1.5	1.6	1.9	2.1	2.4
Slot Number 槽號	1	2	2	2	2	3	3
M ₁ (mm)	3	4.2	4.6	4.7	5.1	6.8	7.1
M ₂ (mm)	2.8	4	4.2	4.4	5.0	6.3	7
Max. dp (mm)	2.3	2.8	3.1	3.6	4.1	4.8	5.8
Drilling Range / Plate Thickness 鑽削範圍 / 板厚 (mm)	0.7~1.9	0.7~2.25	0.7~2.4	1.75~3	1.75~4.4	1.75~5.25	2~6

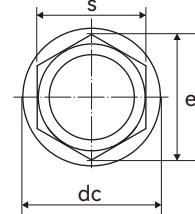
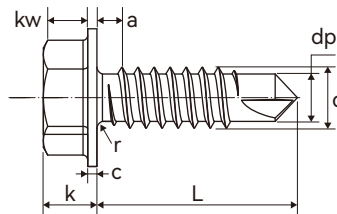
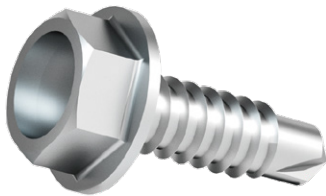
Hexagon Flange Head Self Drilling Screws

六角法蘭面鑽尾釘

Specification 標準: DIN 7504(K)-1995

Material Standard 材料標準:

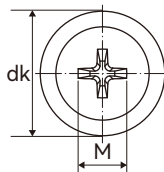
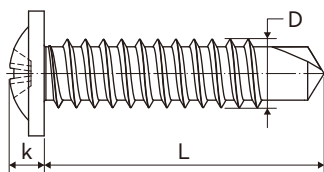
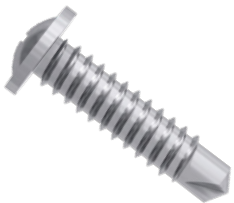
To be manufactured from specified DIN 17210 case-hardening steel or specified EN 10083-1 & DIN EN 10083-2 quenching and tempering processing steel. Allow to use equivalent steel grade. 採用DIN 17210規定的表面硬化鋼或DIN EN 10083-1和DIN EN 10083-2規定的淬火和回火處理鋼製造，允許使用等效鋼級。



Thread Size 螺紋規格	ST2.9	ST3.5	ST3.9	ST4.2	ST4.8	ST5.5	ST6.3
Thread Pitch 牙距 (mm)	1.1	1.3	1.3	1.4	1.6	1.8	1.8
Max. a (mm)	1.1	1.3	1.3	1.4	1.6	1.8	1.8
Min. c (mm)	0.4	0.6	0.6	0.8	0.9	1.0	1.0
dc 外頭寬 (mm)	5.8~6.3	7.6~8.3	7.6~8.3	8.1~8.8	9.8~10.5	10~11	12.2~13.5
Min. e 最小對角 (mm)	4.28	5.96	5.96	7.59	8.71	8.71	10.95
k 頭厚 (mm)	2.5~2.8	3~3.4	3~3.4	3.6~4.1	3.8~4.3	4.8~5.4	5.3~5.9
Min. kw (mm)	1.3	1.5	1.5	1.8	2.2	2.7	3.1
Max. r (mm)	0.4	0.5	0.5	0.6	0.7	0.8	0.9
s 對邊 (mm)	3.82~4	5.32~5.5	5.32~5.5	6.78~7	7.78~8	7.78~8	9.78~10
dp (mm)	2.3	2.8	3.1	3.6	4.1	4.8	5.8
Drilling Range / Plate Thickness 鑽削範圍 / 板厚 (mm)	0.7~1.9	0.7~2.25	0.7~2.4	1.75~3	1.75~4.4	1.75~5.25	2~6

Round Head Washer Self Drilling Screws

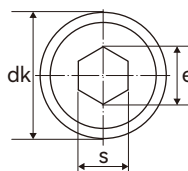
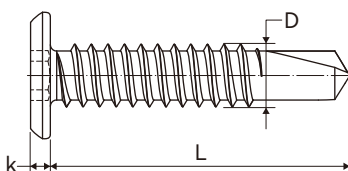
圓頭華司（華威頭）鑽尾釘



Thread Size 螺紋規格	ST4.2	ST4.8
dk 頭徑 (mm)	10.4~11	11.5~12.5
k 頭厚 (mm)	1.9~2.6	2.5~2.8
Slot Number 槽號	2	2

Hexagon Socket Flat Head Self Drilling Screws

平頭內六角（威華頭）鑽尾釘



Thread Size 螺紋規格	ST5.0	ST5.5
dk 頭徑 (mm)	10.5~11	11.5~12
k 頭厚 (mm)	2.5~2.8	2.5~2.8
Slot Number 槽號	3.95~4.05	3.95~4.05

Type of Washers

墊片種類



PVC Washers (Transparent Color)
PVC墊片 (透明色)



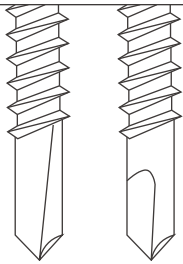
EPDM Washers (Black / Grey)
EPDM墊片 (黑/灰)



Composite Washers (SUS 304/316/430/Al+EPDM)
復合墊片 (SUS 304/316/430/鋁+EPDM)

Type of Blades

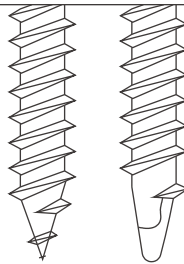
刃部種類



No.2 to No.3 Drill Tail
2~3號鑽尾



No.4 to No.7 Drill Tail
4~7號鑽尾



Pointed tail
尖尾



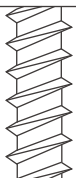
Drill tail with wings
帶翼鑽尾



Suturing Nail
縫合釘鑽尾

Type of Threads

螺紋種類



Fast screws of double thread
with fast locking speed,
suitable for thin steel plate

雙螺紋快牙，鎖緊速度快，
適用於薄鐵板



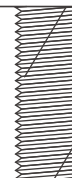
Alternating high and low
threads, used for thin steel
plate or wooden plate

高低牙，高低螺紋相交錯，
適用於薄鐵板或木板



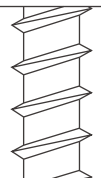
Coarse thread, The most common
shape used for steel plate less
than or equal to 6mm thick

粗牙，最普通的形狀，
用於6mm (含) 以下鐵板



Fine thread, used for steel
plate over 6mm thick

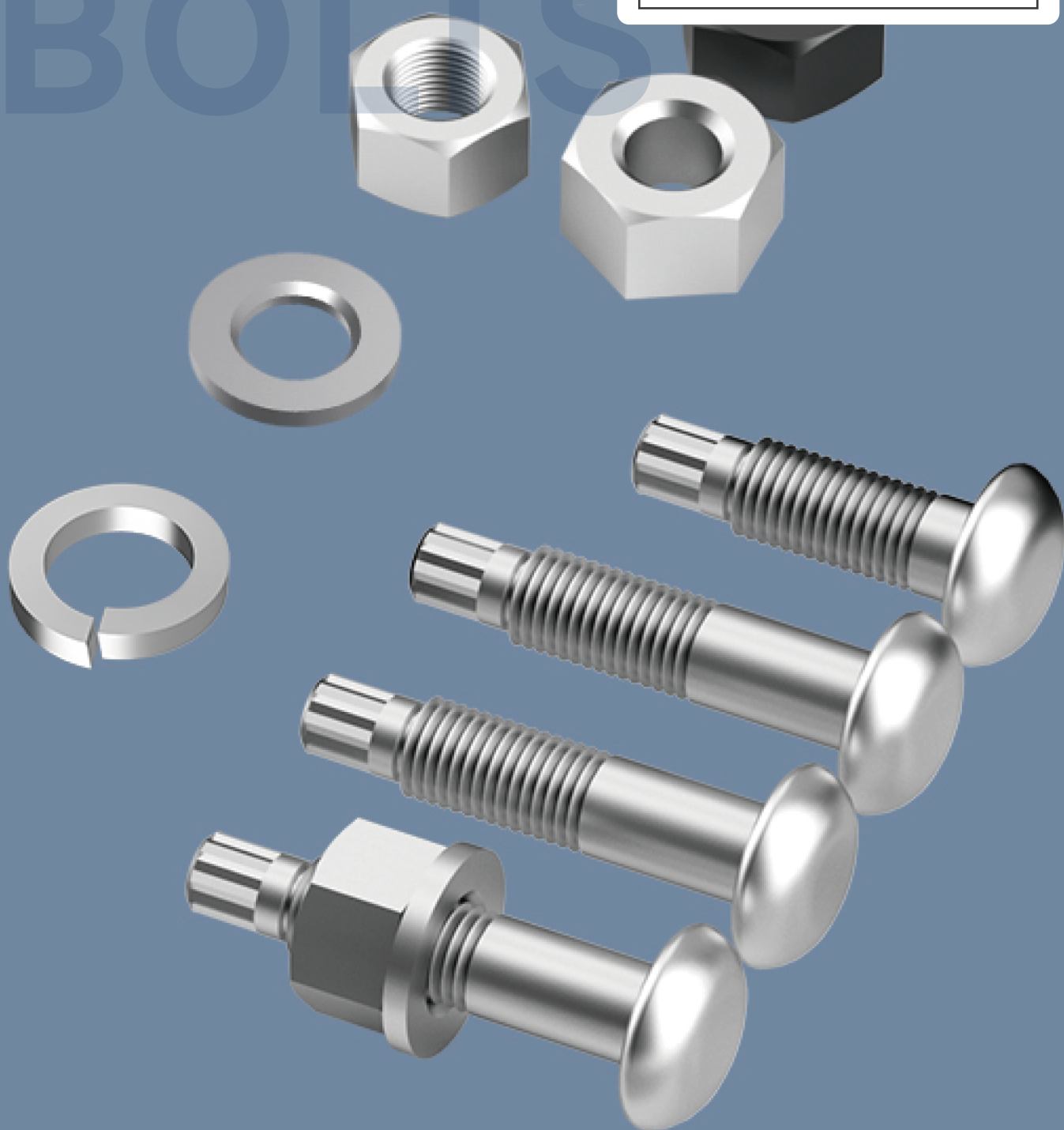
細牙，
用於6mm以上厚鐵板



Plastite, used for thin steel
plate or plastic plate

塑膠牙，
用於薄鐵板或塑膠板

高強度 螺栓



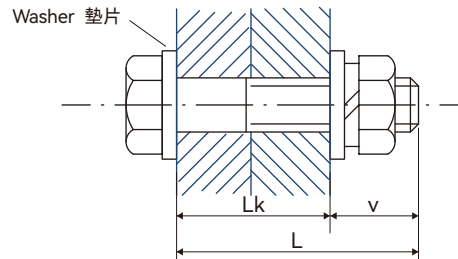
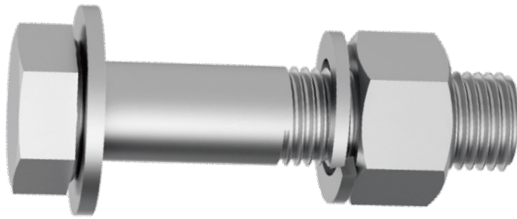


Non-Preloaded Hexagon Head Bolts

非預負載六角頭螺栓

Specification 標準: BS 3692:2001

Characteristic Grade 性能等級: 8.8



Thread Size 螺紋規格 d	Pitch 牙距 p (mm)	Tensile Stress Area 拉應力區 As (mm ²)	ISO 898 Grade 8.8 / BS 5950-1:2000		
			(800N/mm ²) Ultimate Tensile Load F _{u,N} (kN)	(560N/mm ²) Design Tensile Capacity p _t (kN)	(375N/mm ²) Design Shear Capacity p _s (kN)
M5	0.80	14.20	11.36	7.95	5.33
M6	1.00	20.10	16.08	11.26	7.54
M8	1.25	36.60	29.28	20.50	13.73
M10	1.50	58.00	46.40	32.48	21.75
M12	1.75	84.30	67.44	47.21	31.61
M16	2.00	157.00	125.60	87.92	58.88
M20	2.50	245.00	196.00	137.20	91.88
M22	2.50	303.00	242.40	169.68	113.63
M24	3.00	353.00	282.40	197.68	132.38
M27	3.00	459.00	367.20	257.04	172.13
M30	3.50	561.00	448.80	314.16	210.38
M33	3.50	694.00	555.20	388.64	260.25
M36	4.00	817.00	653.60	475.52	306.38
M39	4.00	976.00	780.80	546.56	366.00
M42	4.50	1120.00	896.00	627.20	420.00
M45	4.50	1300.00	1040.00	728.00	487.50
M48	5.00	1470.00	1176.00	823.20	551.25

Thread Size 螺紋規格 d	BS 3692		BS 4320 (Form A)		Added Length v	
	Nuts Thickness 螺母厚度 Max.m (mm)	Nuts Width Across Flats 螺母平面寬度 (mm)	Washer Thickness (Mean) 墊圈厚度 (平均值) s (mm)	Washer Outside Dia. 墊圈外徑 d2 (mm)	Thread Projection 螺桿有效長度 2 x p (mm)	Projection Length = m+s+2P 有效長度 v (mm)
M5	5	8	1.5	10	1.6	8.1
M6	5	10	1.5	12.5	2.0	8.5
M8	6.5	13	1.5	17	2.5	10.5
M10	8	17	2	21	3.0	13.0
M12	10	19	2.5	24	3.5	16.0
M16	13	24	3	30	4.0	20.0
M20	16	30	3	37	5.0	24.0
M22	18	32	3	39	5.0	26.0
M24	19	36	4	44	6.0	29.0
M27	22	41	4	50	6.0	32.0
M30	24	46	4	56	7.0	35.0
M33	26	50	5	60	7.0	38.0
M36	29	55	5	66	8.0	42.0
M39	31	60	6	72	8.0	45.0
M42	34	65	7	78	9.0	50.0
M45	36	70	7	85	9.0	52.0
M48	38	75	8	92	10.0	56.0



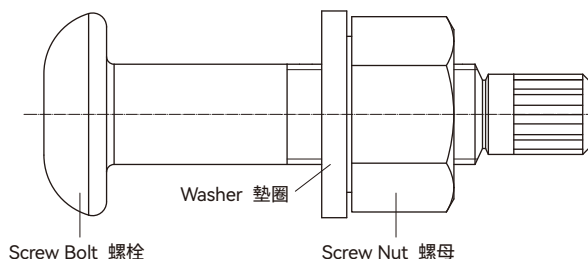
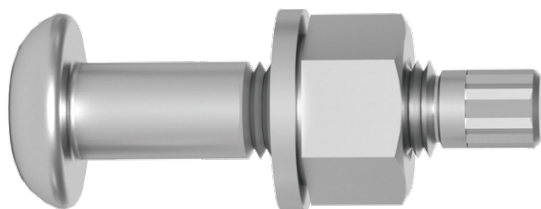
High Strength Structural Bolting Assemblies for Preloading

預負載用高強度結構螺栓連接組件

Specification 標準: EN 14399-10

Characteristic Grade 性能等級: 8.8, 10.9

Components 組成: Screw Bolt, Washer, Screw Nut 螺栓、墊圈、螺母

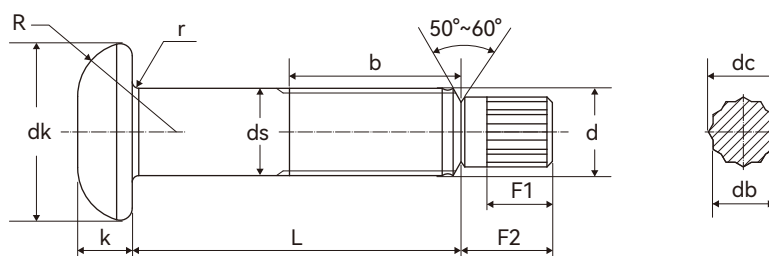
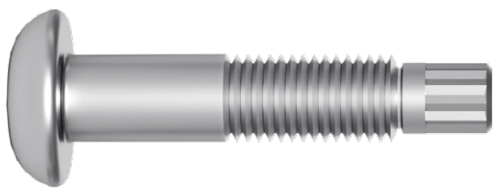


System HRC - Bolt HRC with Cup Head

HRC系統 - 扭剪型圓頭螺栓

Specification 標準: EN 14399-10

Characteristic Grade 性能等級: 10.9



Thread Size 螺紋規格 d		M12	M16	M20	M22	M24	M27	M30	M36
Thread Pitch 牙距 (mm)		1.75	2	2.5	2.5	3	3	3.5	4
Min. dk (mm)		21	27	34	38.5	43	48	52	66
k 頭厚 (mm)	Nom.	8	10	13	14	15	17	19	23
	Max.	8.8	10.8	13.9	14.9	15.9	17.9	20	24
	Min.	7.2	9.2	12.1	13.1	14.1	16.1	18	22
b (mm)	L ≤ 125	30	38	46	50	54	60	66	78
	125 < L ≤ 200	—	44	52	56	60	66	72	84
	L > 200	—	—	65	69	73	79	85	97
ds (mm)	Max.	12.7	16.7	20.84	22.84	24.84	27.84	20.84	37
	Min.	11.3	15.3	19.16	21.16	23.16	26.16	29.16	35
db (mm)	Nom.	7.7	11.3	14.1	15.4	16.8	19	21.1	25.4
	Max.	8	11.6	14.4	15.7	17.1	19.3	21.4	25.7
	Min.	7.4	11	13.8	15.1	16.5	18.7	20.8	25.1
Min. dc (mm)		8.36	12.43	15.6	17.06	18.65	21.13	23.5	28.5
Min. F1 (mm)		11	13	15	15.5	16	19	21	25
Max. F2 (mm)		16	18	20	21	21.5	24	26	31
Min. r (mm)		1.2	1.2	1.5	1.5	1.5	2.0	2.0	2.0
R (mm)		18	20	22	23	25	27	30	36

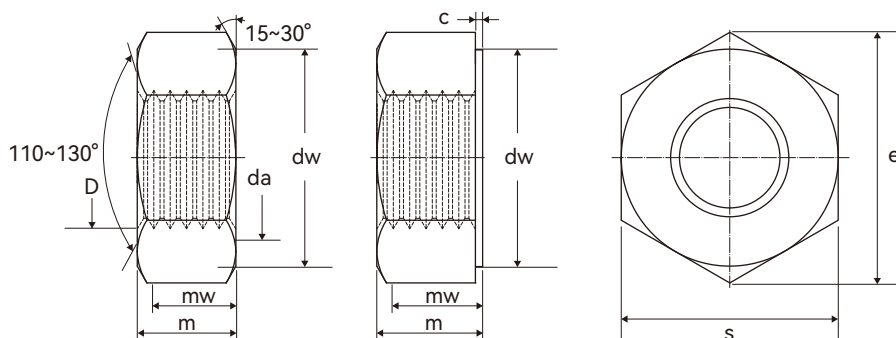
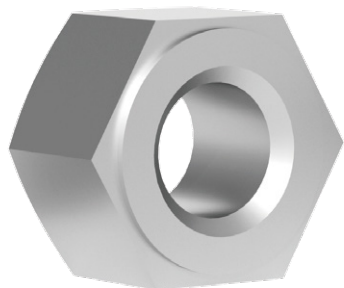


System HRC - Regular Nuts (HR)

HRC系統 - 六角常規螺母 (HR)

Specification 標準: EN 14399-10

Characteristic Grade 性能等級: 10H



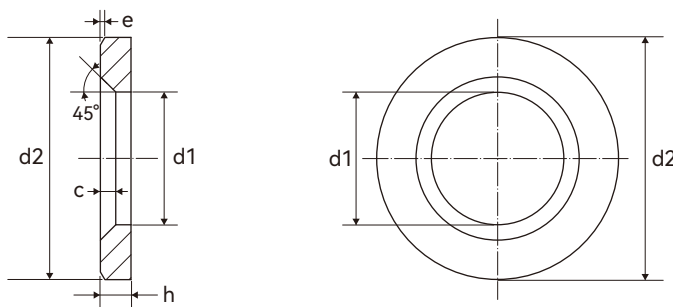
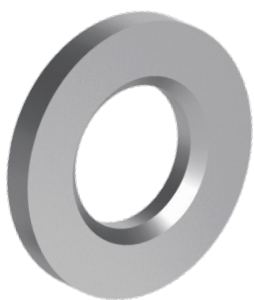
Thread Size 螺紋規格 D		M12	M16	M20	M22	M24	M27	M30	M36
Thread Pitch 牙距 (mm)		1.75	2	2.5	2.5	3	3	3.5	4
da (mm)	Max.	13	17.3	21.6	23.7	25.9	29.1	32.4	38.9
	Min.	12	16	20	22	24	27	30	36
Min. dw (mm)		20.1	24.9	29.5	33.3	38	42.8	46.6	55.9
Min. e (mm)		23.91	29.56	35.03	39.55	45.2	50.85	55.37	66.44
m (mm)	Max.	10.8	14.8	18	19.4	21.5	23.8	25.6	31
	Min.	10.37	14.1	16.9	18.1	20.2	22.5	24.3	29.4
Min. mw (mm)		8.3	11.3	13.5	14.5	16.2	18.1	19.5	22.4
c (mm)	Max.	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Min.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
s 對邊 (mm)	Max.	22	27	32	36	41	46	50	60
	Min.	21.16	26.16	31	35	40	45	49	58.8

Chamfered Washer

平倒角墊圈

Specification 標準: EN 14399-6

Hardness Range 硬度範圍: 300 HV ~ 370 HV



Nominal Size 標稱尺寸		12	14	16	18	20	22	24	27	30	36
d1 (mm)	Min.	13	15	17	19	21	23	25	28	31	37
	Max.	13.27	15.27	17.27	19.33	21.33	23.33	25.33	28.52	31.62	37.62
d2 (mm)	Min.	23.48	27.48	29.48	33.38	36.38	38.38	43.38	49	54.80	64.80
	Max.	24	28	30	34	37	39	44	50	56	66
h (mm)	Nom.	3	3	4	4	4	4	4	5	5	6
	Min.	2.7	2.7	3.7	3.7	3.7	3.7	3.7	4.4	4.4	5.4
	Max.	3.3	3.3	4.3	4.3	4.3	4.3	4.3	5.6	5.6	6.6
e (mm)	Nom.=Min.	0.5	0.5	0.75	0.75	0.75	0.75	0.75	1	1	1.25
	Max.	1.0	1.0	1.50	1.50	1.50	1.50	1.50	2	2	2.5
c (mm)	Min.	1.6	1.6	1.6	2.0	2.0	2.0	2.0	2.5	2.5	2.5
	Max.	1.9	1.9	1.9	2.5	2.5	2.5	2.5	3.0	3.0	3.0



Job Bolt Application of HK HuangShangYou Steel Industrial Limited

香港煌商佑鋼鐵實業有限公司螺絲業績

No. 序號	Name of Projects 工程名稱	Time 時間	Major Content 主要工程內容	Client Name 客戶名稱
1	Contract No. ND/2019/01 DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1 合約編號 土木工程擴展署/CEDD: ND/2019/02—一個塱原自然生態公園的遊客中心及一條橫跨雙魚河的行人天橋；以及為古洞北新發展區鄉村遷置區進行土地平整及相關的基礎設施工程	2021.2	M36不鏽鋼絲桿A4-80 1100mm 600PCS	偉通工程有限公司 利基-顯豐工程聯營 土木工程擴展署/CEDD
2	EPD Chemical Waste Treatment Facilities, 51 Tsing Yi Road, South Tsing Yi, N.T. 環境保護署香港化學廢物處理中心	2022.2	M36 Bolt, 1115mm Grade10.9 Galvanized 50PCS	Ecospace-Kum Shing Joint Venture Environmental Protection Department
3	HY/2021/09 - Construction of Walkway Cover at Nam Wan Road, Tai Po HY/2021/09 - 大埔南運路行人通道上蓋的建造工程	2022.5	M24不鏽鋼絲桿 A4-80 L620mm 930PCS	基碩建築工程有限公司 Kaiser Construction Engineering Company Limited 路政署 Highways Department
4	HKIA 3303 - Third Runway and Associated Works-W079A - TRAFFIC DECK ACROSS WVT HKIA 3303-交通橋項目	2020.3	M33 M36 Bolt, 1200mm Grade10.9 Galvanized 110PCS	香港機場管理局 Airport Authority 榮利建築有限公司 Wing Lee Construction Limited
5	ALTERATION AND ADDITION WORKS AT SHATIN RACECOURSE FOR THE HONG KONG JOCKEY CLUB 香港賽馬會沙田馬場改建及加建工程	2021.12	M36 Bolt, 900mm Grade8.8 Galvanized 192PCS	俊和建筑工程有限公司 Chun Wo Construction and Engineering Company Limited 賽馬會 The Hong Kong Jockey
6	HY/2019/17 - Retrofitting of Escalators for Footbridge Across Castle Peak Road - Kwai Chung Near MTR TAI WO HAU Station Exit B HY/2019/17-青山道葵湧行人天橋近港鐵大窩口站B出口項目	2021.7	不鏽鋼螺絲 A4-80 M24*50mm M12*45mm 184PCS M24*L890mm 232PCS	興富工程有限公司 Hing Fu Engineering Company Ltd 路政署 Highways Department
7	Temporary Steel Deck for CLP Cable and Comm. Duct HKIA 3303 - Third Runway and Associated Works HKIA 3303 -中電電纜和通信管道用臨時橋項目	2021.4	M36 Bolt, 1200mm Grade8.8 MS 286PCS	香港機場管理局 Airport Authority 榮利建築有限公司 Wing Lee Construction Limited
8	3303-Temporary Steel Working Platform For AGL Pile Cap Works 3303-AGL樁承臺工程臨時鋼平臺	2021.3	不鏽鋼螺絲 A4-80 M27*900mm M33*1100mm 998PCS	香港機場管理局 Airport Authority 冠富工程有限公司 Rich Crown Engineering Ltd
9	Contract No. HY/2020/23 Provision of Universal Accessibility Facilities at Footbridge, Elevated Walkways and Subwaypackage 6 Contract 1 Contract No. HY/2020/23 行人天橋、高架行人道及地鐵六號服務站內通用無障礙設施合約1	2022.8	不鏽鋼螺絲 A4-80 M24*1000mm 196PCS	中國化學工程集團有限公司 China National Chemical Engineering Group Corporation Ltd 路政署 Highways Department

Fasteners

緊固件

BOLTS · NUTS · SCREWS



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