

SEMS FASTENERS

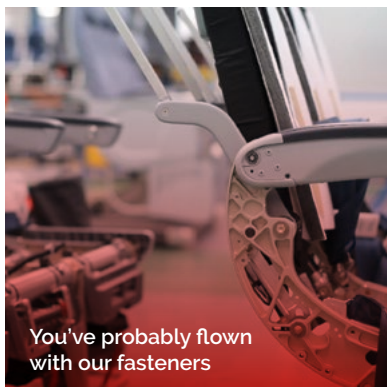
PRODUCT GUIDE



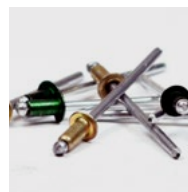
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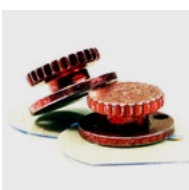
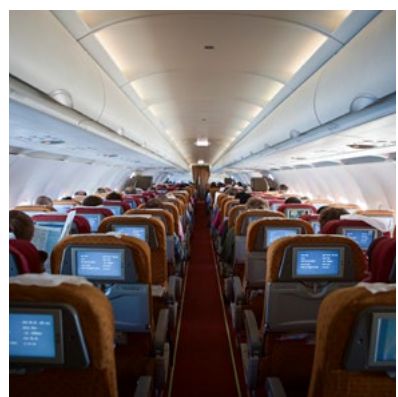
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SEMS Fasteners

Metric SEMS

	Product Group	Type & Finish	Material	Hex Socket	X recess	6 lobe rec	Other	Description	Flat washer	Lock washer
	115	010	316	ISO 4762					std	
	115	020	316	ISO 4762					std	lock
	115	030	316	ISO 4762				Increased shank	std	lock
	115	040	316	ISO 4762					small	
	115	050	316			ISO14580			std	wave
		060								
	115	070	316		ISO7045				small	lock
	115	080	316		ISO7045				std	lock
	115	090	316	ISO 4762					small	lock
	115	100	316		ISO7045			Increased shank	std	wave
	115	110	316		ISO7045			Increased shank	std	lock
	115	120	316			ISO14580			small	wave
	115	130	316			ISO14580			std	
	115	140	316			ISO14580			std	lock
	115	150	316		ISO7045				std	
		160								
	115	170	316	ISO 4762					std	wave

	Product Group	Type & Finish	Material	Hex Socket	X recess	6 lobe rec	Other	Description	Flat washer	Lock washer
	115	180	316	ISO 4762					small	NFE27629 wave
		190								
	115	200	303				spacer		std	
	115	210	303				spacer		std	lock
	115	250	316				spacer		std	
	115	260	316				spacer		std	lock

INCH SEMS

	Product Group	Type & Finish	Material	Hex Socket	X recess	6 lobe recx (torx)	Other	Description	Flat washer	Lock washer
	116	010	316	ISO2470					std	
	116	020	316	ISO2470					std	lock
	116	030	316	ISO2470					small	
		040								
		050								
		060								
		070								
	116	080	316		ISO1981				std	lock
	116	090	316		ISO1981			Increased shank	std	lock

NOTES

- 1, All drawings and DATA sheet in this brochure are Un-controlled.
- 2, Due to thread rolling limitations all SEMs with a under head length of 25mm[1.00"] or over will have a un-threaded area of 10mm[.394"] min and 15mm[.590"] max of gauged thread (see fig 1)

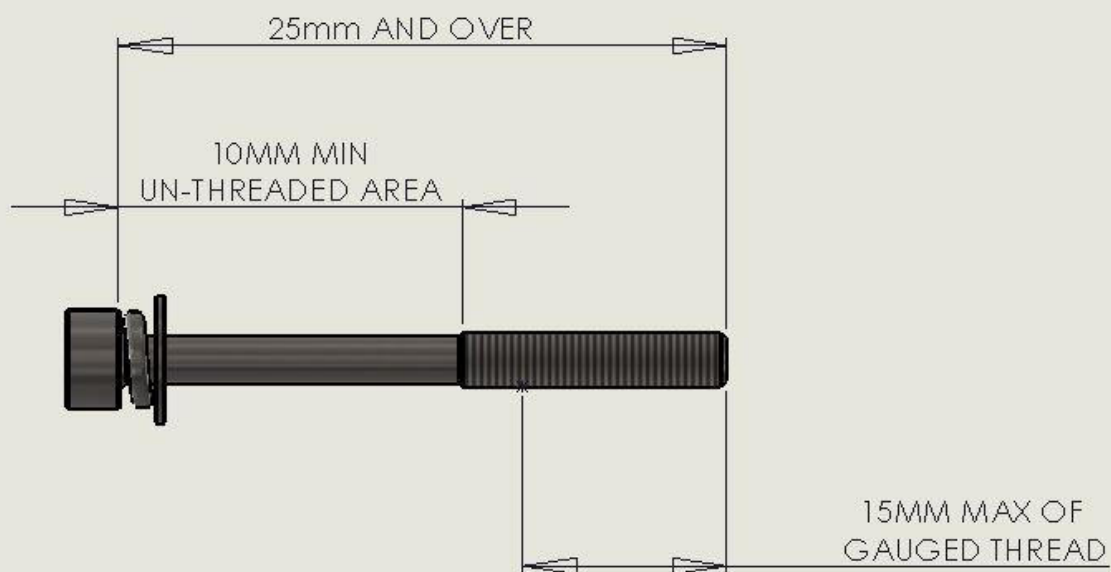
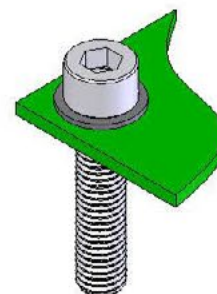
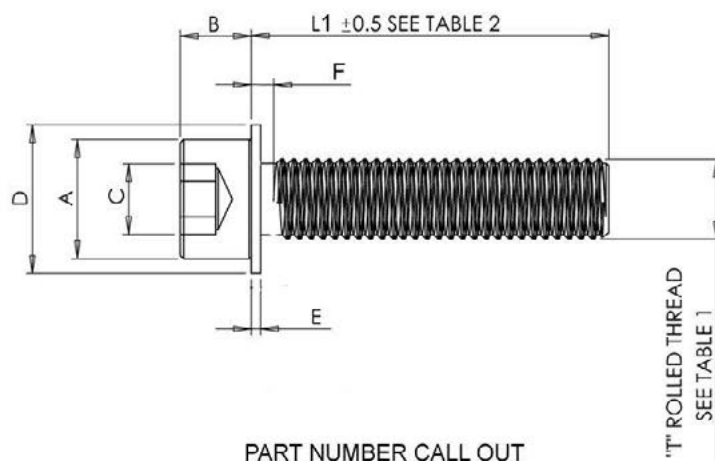


Fig 1



PART NUMBER CALL OUT

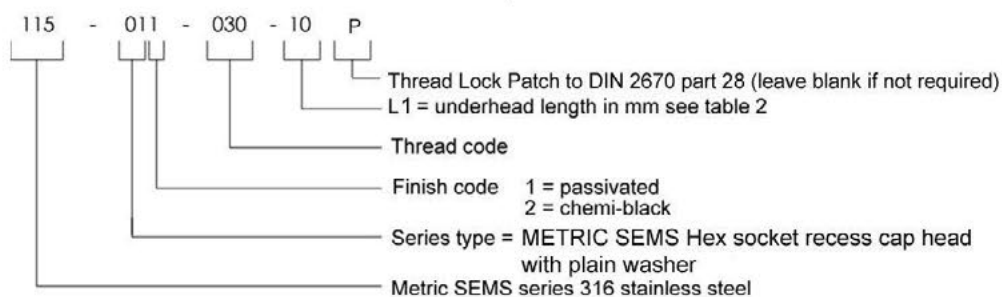


TABLE 1

Thread code	Thread "T" class 6g	A Head dia	B Head ht	C A/F recess	D Washer Diam	E Washer thk	F (1)
020	M2 x 0.4	3.8	2.0	1.5	5.0/4.7	0.3	0.9
025	M2.5 X 0.45	4.5	2.5	2	6.5/6.2	0.5	1.17
030	M3 X 0.5	5.5	3.0	2.5	7.0/6.7	0.5	1.25
040	M4 X 0.7	7.0	4.0	3	9.0/8.7	0.5	1.55
050	M5 X 0.8	8.5	5.0	4	10.0/9.7	0.7	1.9
060	M6 X 1.0	10.0	6.0	5	12.5/12.1	0.7	2.2
082	M8 X 1.25	13.0	8.0	6	17.0/16.6	1.0	2.87
105	M10 X 1.5	16.0	10.0	8	21.0/20.5	1.25	3.5

All head dimensions are to BS EN ISO 4762 :2004 / DIN 912

(1) Distance before full thread starts when assembled

TABLE 2

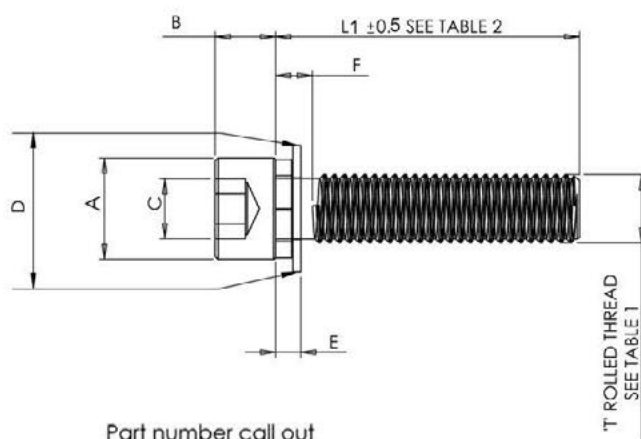
L1 code	L1 dim	M2	M2.5	M3	M4	M5	M6	M8	M10
06	6	*	*	*					
08	8	*	*	*	*				
10	10	*	*	*	*	*			
12	12	*	*	*	*	*	*		
16	16	*	*	*	*	*	*	*	
20	20		*	*	*	*	*	*	*
25	25			*	*	*	*	*	*
30	30			*	*	*	*	*	*

* Standard lengths

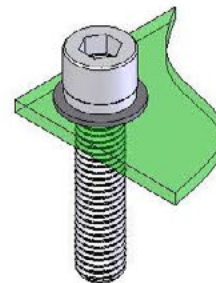
Other thread lengths available, please contact the office

SEMS Fasteners

Metric Sems 115-02(X) Series Hex Socket
Recess Cap Head With Plain And Lock Washers



Part number call out



115 - 021 - 030 - 10

L1 = underhead length in mm see table 2

Thread code

Finish code 1 = passivated
2 = chemi-black

Series type = METRIC SEMS Hex socket recess cap head
with plain and lock washers

Metric SEMS series 316 stainless steel

TABLE 1

Thread code	Thread "T" class 6g	A Head dia	B Head ht	C A/F recess	D Washer Diam	E (1)	F (2)
020	M2 x 0.4	3.8	2.0	1.5	5.0/4.7	0.8	1.7
025	M2.5 X 0.45	4.5	2.5	2	6.5/6.2	1.1	2.1
030	M3 X 0.5	5.5	3.0	2.5	7.0/6.7	1.3	2.6
040	M4 X 0.7	7.0	4.0	3	9.0/8.7	1.7	3.3
050	M5 X 0.8	8.5	5.0	4	10.0/9.7	2.2	4.2
060	M6 X 1.0	10.0	6.0	5	12.5/12.1	2.4	5.0
082	M8 X 1.25	13.0	8.0	6	17.0/16.6	3.0	6.2
105	M10 X 1.5	16.0	10.0	8	21.0/20.5	3.5	8.1

All head dimensions are to BS EN ISO 4762 :2004 / DIN 912 , lock washer to BS4464

(1) Dimension of washers in compressed state

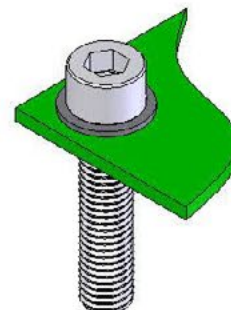
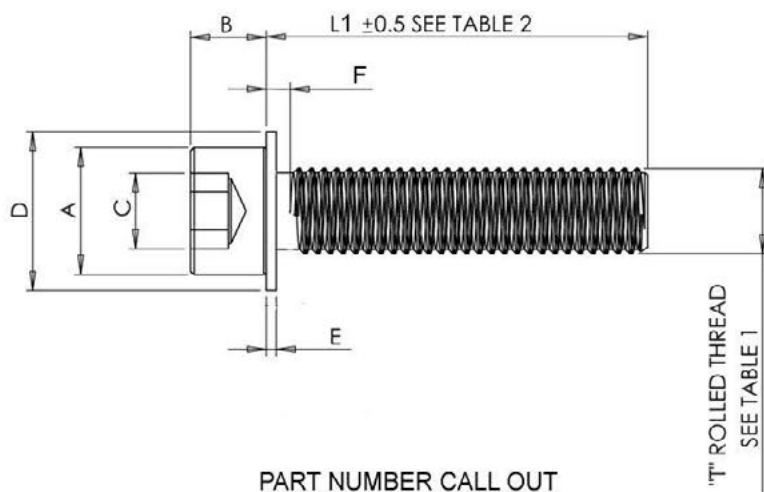
(2) Distance before full thread starts when assembled

TABLE 2

L1 code	L1 dim	M2	M2.5	M3	M4	M5	M6	M8	M10
06	6	*	*	*					
08	8	*	*	*	*				
10	10	*	*	*	*	*			
12	12	*	*	*	*	*	*		
16	16	*	*	*	*	*	*	*	
20	20		*	*	*	*	*	*	*
25	25			*	*	*	*	*	*
30	30			*	*	*	*	*	*

* Standard lengths

Other thread lengths available, please contact the office



PART NUMBER CALL OUT

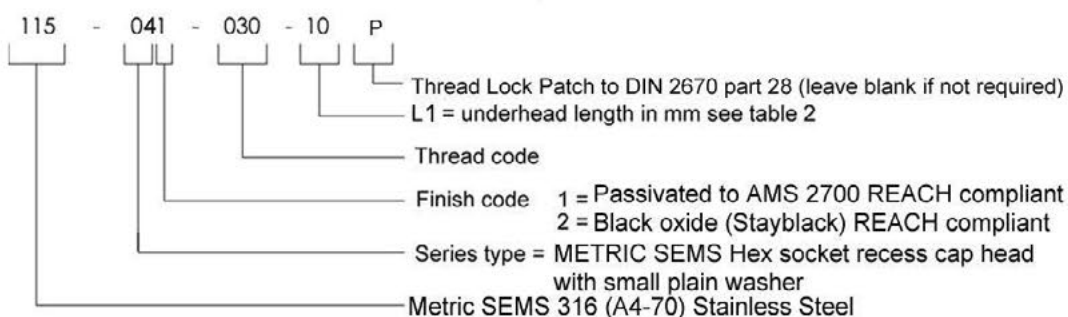


TABLE 1

Thread code	Thread "T" class 6g	A Head dia	B Head ht	C A/F recess	D Washer Diam	E Washer thk	F (1)
025	M2.5 X 0.45	4.5	2.5	2	5.0/4.7	0.5	1.0
030	M3 X 0.5	5.5	3.0	2.5	6.0/5.7	0.5	1.0
040	M4 X 0.7	7.0	4.0	3.0	8.0/7.6	0.5	1.3

All head dimensions are to BS EN ISO 4762 :2004 / DIN 912

(1) Distance before full thread starts when assembled

TABLE 2

L1 code	L1 dim	M2.5	M3					
06	6	*	*					
08	8	*	*					
10	10	*	*					
12	12	*	*					
16	16	*	*					
20	20	*	*					
25	25	*	*					
30	30		*					

* Standard lengths

SEMS Fasteners

Metric Sems 115-07(X) Series Cross Recess Pan Head
With Small Plain Washer And Lock Washer

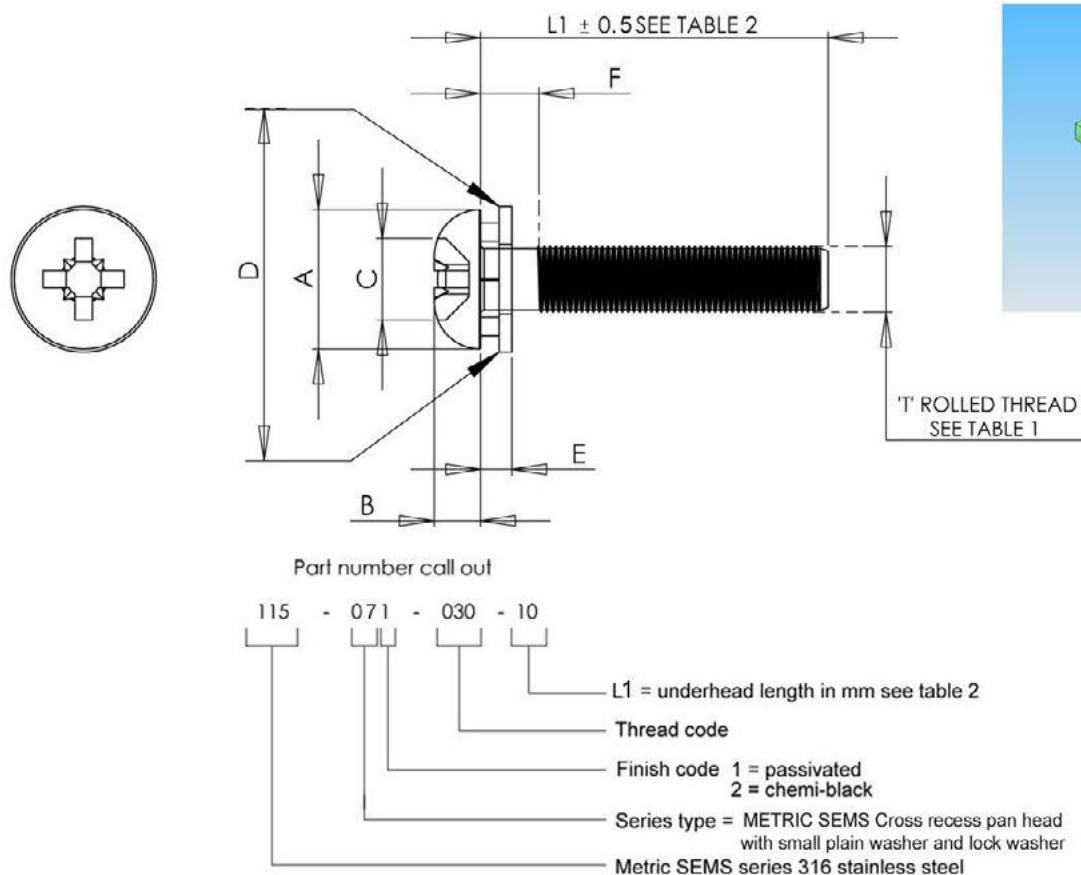


TABLE 1

Thread	Thread "T"	A	B	C	D	E	F
code	class 6g	Head dia	head ht	Driver Pt No	Washer Diam	(1)	(2)
030	M3 x 0.5	6.0	2.4	1	6.0/5.7	1.3	2.6

All head dimensions to DIN 7985 type Z recess, lock washer to BS4464

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

TABLE 2

L1 code	L1 Dim	M3			
- 06	6.0	*			
- 08	8.0	*			
- 10	10.0	*			
- 12	12.0	*			
- 16	16.0	*			
- 20	20.0	*			
- 25	25.0	*			
-30	30.0	*			
* Standard lengths					
Other thread lengths available, please contact the office					

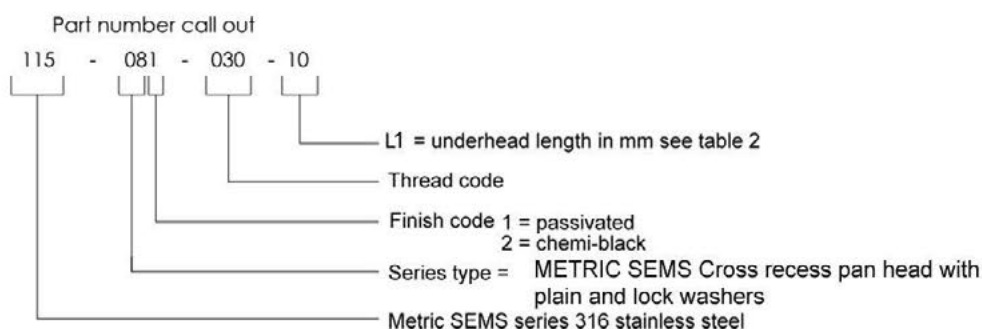
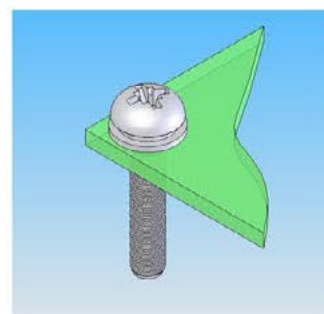
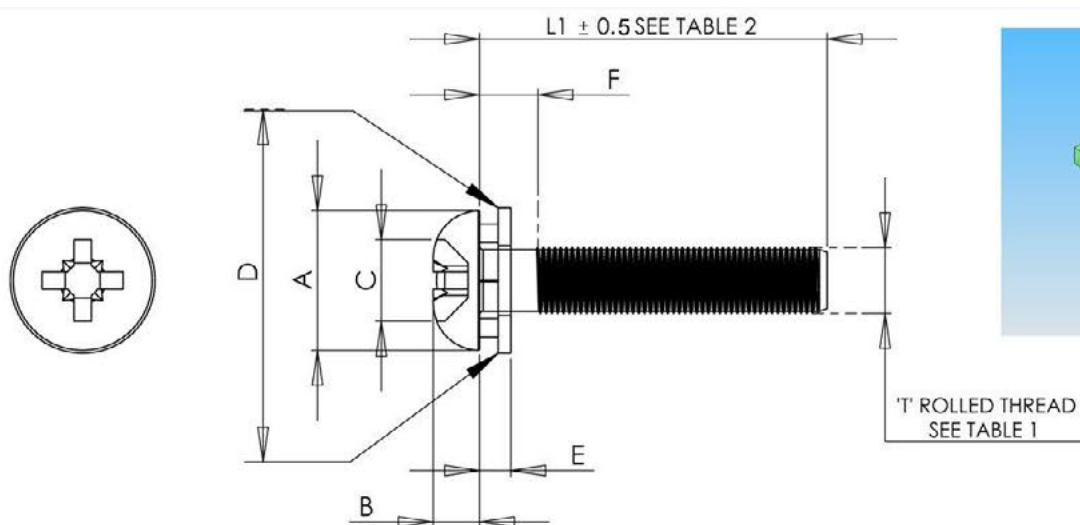


TABLE 1

Thread	Thread "T"	A	B	C	D	E	F
code	class 6g	Head dia	Head ht	Driver Pt No	Washer Diam	(1)	(2)
030	M3 x 0.5	6.0	2.4	1	7.0/6.7	1.3	2.6
040	M4 x 0.7	8.0	3.1	2	9.0/8.7	1.7	3.3
050	M5 x 0.8	10.0	3.8	2	10.0/9.7	2.2	4.2
060	M6 x 1.0	12.0	4.6	3	12.5/12.1	2.4	5.0

All head dimensions to DIN 7985 type Z recess, lock washer to BS4464

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

TABLE 2

L1 code	L1 Dim	M3	M4	M5	M6
- 06	6.0	*	N/A	N/A	N/A
- 08	8.0	*	*	N/A	N/A
- 10	10.0	*	*	*	N/A
- 12	12.0	*	*	*	*
- 16	16.0	*	*	*	*
- 20	20.0	*	*	*	*
- 25	25.0	*	*	*	*
- 30	30.0	*	*	*	*

* Standard lengths

Other thread lengths available, please contact the office

SEMS Fasteners

Metric Sems 115-09(X) Series Hex Socket Recess Cap Head With Small Dia Plain Washer And Lock Washer

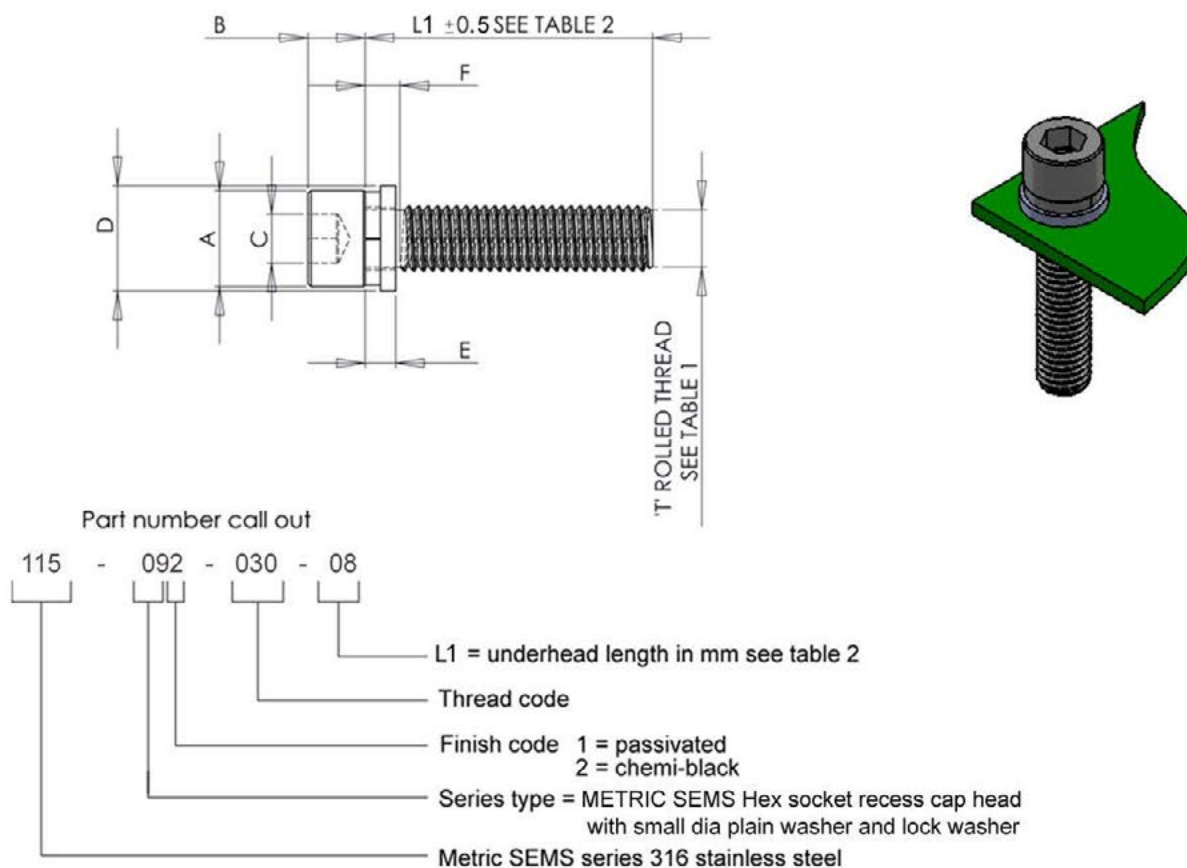


TABLE 1

Thread code	Thread "T" class 6g	A Head dia	B Head ht	C A/F recess	D Washer diam	E (1)	F (2)
025	M2.5 X 0.45	4.5	2.5	2	5.0/4.7	1.1	2.1
030	M3 X 0.5	5.5	3.0	2.5	6.0/5.7	1.3	2.6
040	M4 X 0.7	7.0	4.0	3	8.0/7.6	1.4	3.3

All head dimensions are to BS EN ISO 4762:2004/DIN 912, lock washer to BS4464

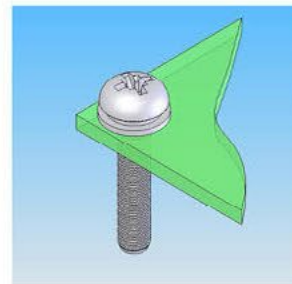
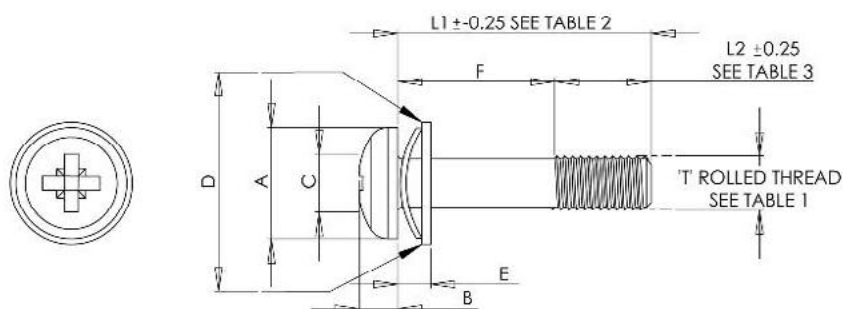
(1) dimensions of washer in compressed state

(2) distance before full thread starts when assembled

TABLE 2

L1 code	L1 dim	M2.5	M3	M4
06	6	*	*	
08	8	*	*	*
10	10	*	*	*
12	12	*	*	*
16	16	*	*	*
20	20	*	*	*
25	25		*	*
30	30		*	*
* Standard lengths				
Other thread lengths available, please contact the office				

ISSUE 4 160811

Metric Sems 115-1 O(X) Series Cross Recess Pan Head
With Plain And Spring Washers. Increased Shank Length

Part number call out

115 - 101 - 030 - 1205

L2 = Full thread length in mm see table 3

L1 = Underhead length in mm

Thread code

Finish code 1 = Passivated 2 = Chemi-Black

Series type = Metric SEMS Cross recess pan head with plain
and spring washers increased shank length

Metric SEMS

TABLE 1							
Thread	Thread "T"	A	B	C	D	E	F
code	class 6g	Head dia	head ht	Driver Pt No	Washer Diam	(1)	
030	M3 x 0.5	5.6	2.4	1	6.0/5.7	1.9 max	2.4 min
All head dimensions to ISO7045 type Z recess, Spring washer to DIN 137A							
(1) Dimension of washers in free state							

TABLE 2								
DASH NUMBERS L1 DIMENSIONS								
THREAD	-06	-08	-10	-12	-16	-20	-25	-30
SIZE	6.0	8.0	10.0	12.0	16.0	20.0	25.0	30.0
M3 X 0.5	*	*	*	*	*	*	*	*

TABLE 3										
DASH NUMBERS L2 DIMENSIONS										
THREAD	-03	-04	-05	-06	-08	-10	-12	-16	-20	-25
SIZE	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
M3 X 0.5	*	*	*	*	*	*	*	*	*	*

NB Minimum screw length is equal to L2 + dimnF

e.g. on a M3 x 0.5 screw the minimum underhead length L1 = 3.0 + 2.4

which is rounded to the nearest dash number -06 = 6.0mm

To create a screw with plain shank to captivate it in a panel, remember to allow for the washers in the free state dimn E

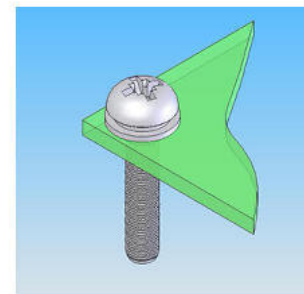
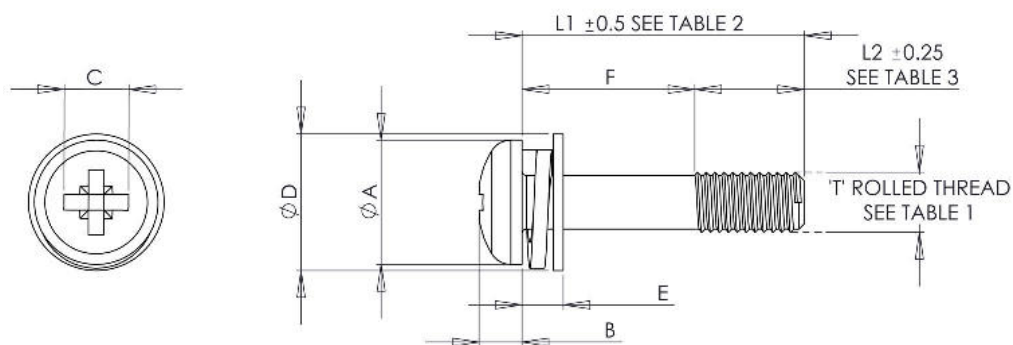
e.g. 115-101-030-0603 L1 = 8.0mm, L2 = 0.3, E = 1.9

Therefore plain shank = 6.0 - 3.0 - 2.4 = 0.6

ISSUE 1 3110

SEMS Fasteners

Metric Sems 115-1 O(X) Series Cross Recess Pan Head
With Plain And Spring Washers. Increased Shank Length



Part number call out

115 - 112 - 030 - 1205

L2 = Full thread length in mm see table 3

L1 = Underhead length in mm

Thread code

Finish code 1= Passivated 2 = Chemi-Black

Series type= Metric SEMS Cross recess pan head with plain and lock washers increased shank length

Metric SEMS series 316 stainless steel

TABLE 1

Thread	Thread "T"	A	B	C	D	E	F
code	class 6g	Head dia	head ht	Driver Pt No	Washer Diam	(1)	
030	M3 x 0.5	6.0	2.4	1	7.0/6.7	3.13 max	3.9min
040	M4 x 0.7	8.0	3.1	2	9.0/8.7	3.60 max	4.6min
050	M5 x 0.8	10.0	3.8	2	10.0/9.7	4.50 max	5.7min
060	M6 x 1.0	12.0	4.6	3	12.5/12.1	4.50 max	6.0min

All head dimensions to ISO7045 type Z recess ,Lock washer to BS4464
(1) Dimension of washers in free state

TABLE 2

DASH NUMBERS L1 DIMENSIONS							
THREAD	-08	-10	-12	-16	-20	-25	-30
SIZE	8.0	10.0	12.0	16.0	20.0	25.0	30.0
M3 X 0.5	*	*	*	*	*	*	*
M4 X 0.7	N/A	*	*	*	*	*	*
M5 X 0.8	N/A	N/A	*	*	*	*	*
M6 X 1.0	N/A	N/A	*	*	*	*	*

TABLE 3

DASH NUMBERS L2 DIMENSIONS										
THREAD	-03	-04	-05	-06	-08	-10	-12	-16	-20	-25
SIZE	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
M3 X 0.5	*	*	*	*	*	*	*	*	*	*
M4 X 0.7	N/A	*	*	*	*	*	*	*	*	*
M5 X 0.8	N/A	N/A	*	*	*	*	*	*	*	N/A
M6 X 1.0	N/A	N/A	N/A	*	*	*	*	*	*	N/A

NB Minimum screw length is equal to L2 + dimnF

e.g. on a M3 x 0.5 screw the minimum underhead length L1 = 3.0 + 2.4

which is rounded to the nearest dash number -06 = 6.0mm

To create a screw with plain shank to captivate it in a panel, remember to allow for the washers in the free state dimn E

e.g. 115-112-030-0603 L1 = 8.0mm, L2 = 0.3, E = 1.9

Therefore plain shank = 6.0 - 3.0 - 2.4 = 0.6

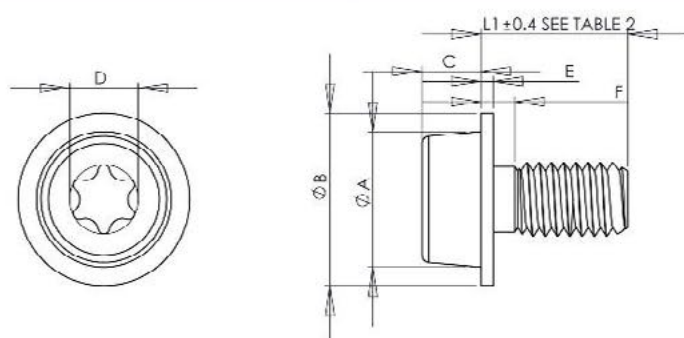
Engineering Changes

Product improvement is

a continuing process.

Data sheets are subject to changes without notice

ISSUE 1 010612



115 - 131 - 030 - 08 P

P = Thread locking patch (if not required leave blank)

L2 = underhead length in mm see table 2

Thread code

Finish code 1 = Passivated
2 = Chemi blackSeries type = Metric SEMS Hexalobular cheese head
with plain washer
Metric SEMS series 316 stainless steel

TABLE 1

Thread code	Thread "T" class 6g	A Head dia	B Washer Diam	C Head ht	D Hex Socket No	E washer thk	F (1)
020	M2 X 0.4	3.8	5.0/4.7	1.55	6	0.3	0.9
030	M3 X 0.5	5.5	7.0/6.7	2.4	10	0.5	1.25
040	M4 X 0.7	7.0	9.0/8.7	3.1	20	0.5	1.55
050	M5 X 0.8	8.5	10.0/9.7	3.65	25	0.7	1.9
060	M6 X 1.0	10.0	12.5/12.1	4.40	30	0.7	2.2

All head dimensions are to ISO 14580.

(1) Distance before full thread starts when assembled

TABLE 2

L2 code	L2 dim	M2	M3	M4	M5	M6	M8	M10
04	4	*						
06	6	*	*					
08	8	*	*	*				
10	10	*	*	*	*			
12	12	*	*	*	*	*		
16	16	*	*	*	*	*	*	
20	20	*	*	*	*	*	*	*
25	25		*	*	*	*	*	*
30	30		*	*	*	*	*	*

* Standard lengths

Other thread lengths available, please contact the office

Engineering Changes
Product improvement is a continuing process. Data sheets are subject to changes without notice

ISSUE 2 180615

SEMS Fasteners

Metric Sems 115-13(X) Hexalobular Socket Cheese Head With Plain Washer

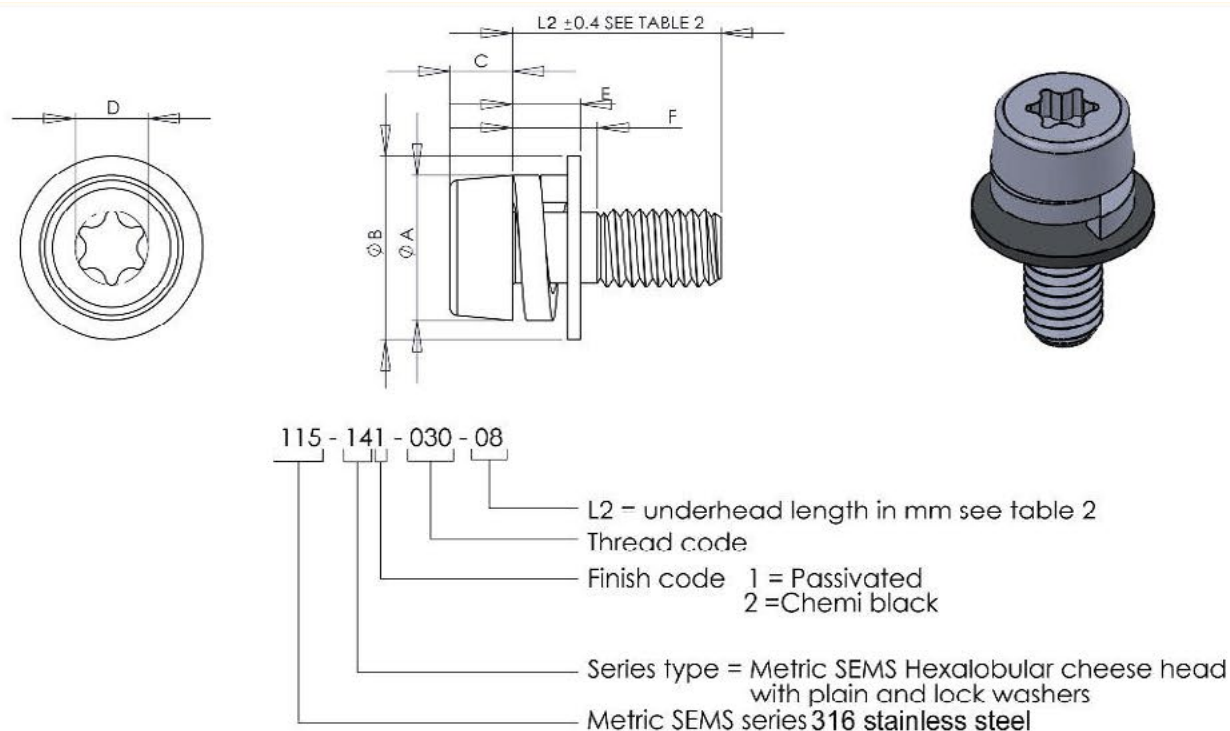


TABLE 1

Thread code	Thread "T" class 6g	A Head dia	B Washer Diam	C Head ht	D Hex Socket No	E (1)	F (2)
030	M3 X 0.5	5.5	7.0/6.7	2.4	10	1.3	2.6
040	M4 X 0.7	7.0	9.0/8.7	3.1	20	1.7	3.3
050	M5 X 0.8	8.5	10.0/9.7	3.65	25	2.2	4.2
060	M6 X 1.0	10.0	12.5/12.1	4.40	30	2.4	5.0
080	M8 x 1.25	13.0	17.0/16.6	5.80	45	3.0	6.2

All head dimensions are to ISO 14580.

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

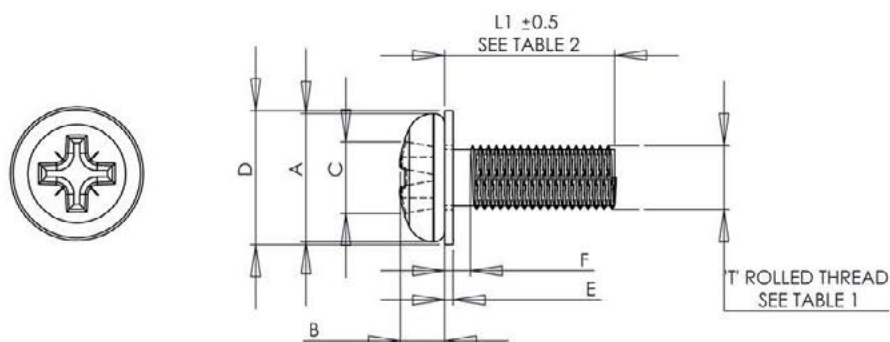
TABLE 2

L2 code	L2 dim	M3	M4	M5	M6	M8	M10
06	6	*					
08	8	*	*				
10	10	*	*	*			
12	12	*	*	*	*		
16	16	*	*	*	*	*	
20	20	*	*	*	*	*	*
25	25	*	*	*	*	*	*
30	30	*	*	*	*	*	*

* Standard lengths

Other thread lengths available, please contact the office

ISSUE 2 231013



Part number call out

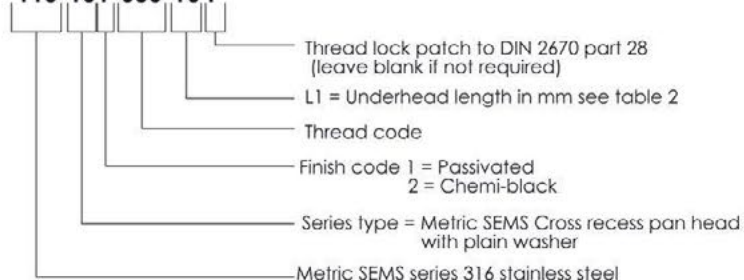
115-151-030-10 P

TABLE 1

Thread	Thread "T"	A	B	C	D	E	F
code	class 6g	Head dia	Head ht	Driver Pt No	Washer Diam	Washer thk	(1)
030	M3 x 0.5	6.0	2.4	1	7.0/6.7	0.5	1.25
040	M4 x 0.7	8.0	3.1	2	9.0/8.7	0.5	1.55
050	M5 x 0.8	10.0	3.8	2	10.0/9.7	0.7	1.9
060	M6 x 1.0	12.0	4.6	3	12.5/12.1	0.7	2.2

All head dimensions to DIN 7985 type Z recess.

(1) Distance before full thread starts when assembled

TABLE 2

L1 code	L1 Dim	M3	M4	M5	M6
- 06	6.0	*	N/A	N/A	N/A
- 08	8.0	*	*	N/A	N/A
- 10	10.0	*	*	*	N/A
- 12	12.0	*	*	*	*
- 16	16.0	*	*	*	*
- 20	20.0	*	*	*	*
- 25	25.0	*	*	*	*
- 30	30.0	*	*	*	*

* Standard lengths

Other thread lengths available, please contact the office

ISSUE 1 290413

Metric Sems 115-17(X) Series Hex Socket Recess
Cap Head With Plain And Wave Spring Washer



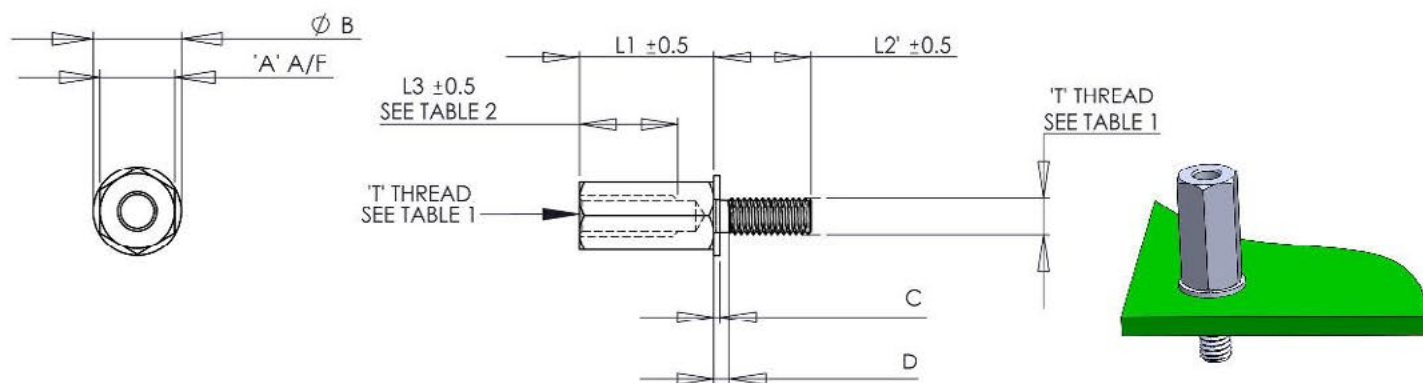
115 - 171 - 030 - 08

Metric SEMS series 316 stainless steel

(2) distance before full thread starts when assembled

* Standard lengths

www.clarendonsf.com



115-201-030-1108 P

THREAD LOCK PATCH TO DIN2670 PART 28(LEAVE BLANK IF NOT REQUIRED)

L2' = UNDER HEAD LENGTH IN MM e.g. 08 = 8MM

'L1' = SPACER LENGTH IN MM, e.g. 15 = 15MM

THREAD CODE

FINISH CODE: 1=PASSIVATED
2=CHEMI-BLACKSERIES TYPE = 20 = SPACER IN 303 ST/STEEL WITH PLAIN WASHER IN 316 ST/STEEL
25 = SPACER IN 316 ST/STEEL WITH PLAIN WASHER IN 316 ST/STEEL

METRIC SEMS SERIES

TABLE 1

Thread code	Thread "T" class 6g	A HEX A/F	B Washer Diam	C Plain washer Thk	D (1)
025	M2.5 X 0.45	4.0	6.5/6.2	0.5	1.17
030	M3 X 0.5	5.5	7.0/6.7	0.5	1.25
040	M4 X 0.7	7.0	9.0/8.7	0.5	1.55
050	M5 X 0.8	8.0	10.0/9.7	0.7	1.90

(1) Distance before full thread starts

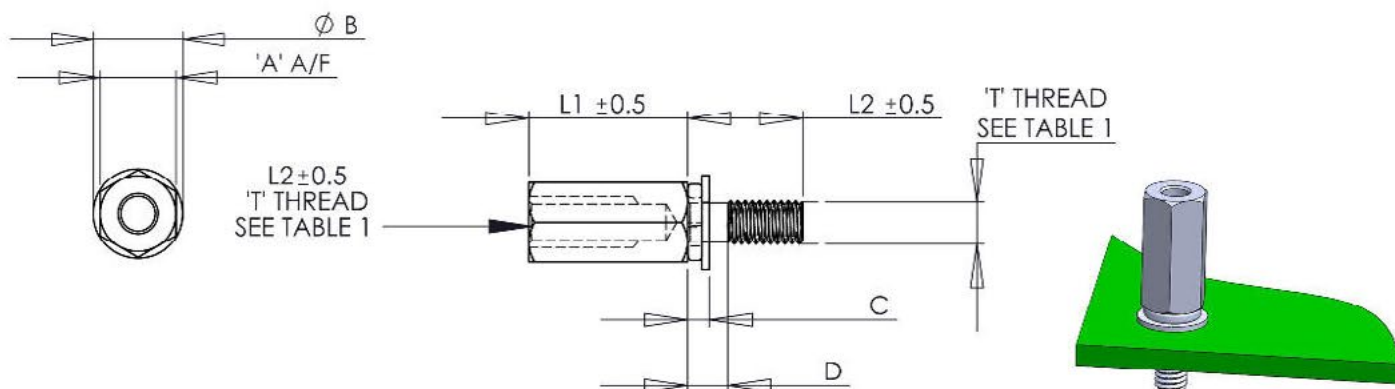
TABLE 2

Thread code	Thread 'T' class 6H	L3	
		L1 ≤ 10	L1 ≥ 11
025	M2.5 X 0.45		
030	M3 X 0.5	L1 - 3	8.0
040	M4 X 0.7		
050	M5 X 0.8		

ISSUE 3 020413

SEMS Fasteners

Metric Sems 115-21(X) And 115-26(X) Series Hex
Spacer With Plain And Lock Washers



115-211-030-1108

L2 = UNDER HEAD LENGTH & FULL FEMALE THREAD IN MM e.g. 08 = 8MM

L1 = SPACER LENGTH IN MM, e.g. 15 = 15MM

THREAD CODE

FINISH CODE: 1=PASSIVATED
2=CHEMI-BLACK

SERIES TYPE = 21 = SPACER IN 303 ST/STEEL WITH PLAIN & LOCK WASHERS IN 316 ST/STEEL
26 = SPACER IN 316 ST/STEEL WITH PLAIN & LOCK WASHERS IN 316 ST/STEEL

METRIC SEMS SERIES

TABLE 1

Thread code	Thread "T" class 6g	A HEX A/F	B Washer Diam	C Washer Thk (1)	D (2)
025	M2.5 X 0.45	4.0	6.5/6.2	1.1	2.1
030	M3 X 0.5	5.5	7.0/6.7	1.3	2.6
040	M4 X 0.7	7.0	9.0/8.7	1.7	3.3
050	M5 X 0.8	8.0	10.0/9.7	2.2	4.2

(1) Dimension of washers in compressed state

(2) Distance before full thread starts

ISSUE 1 280113

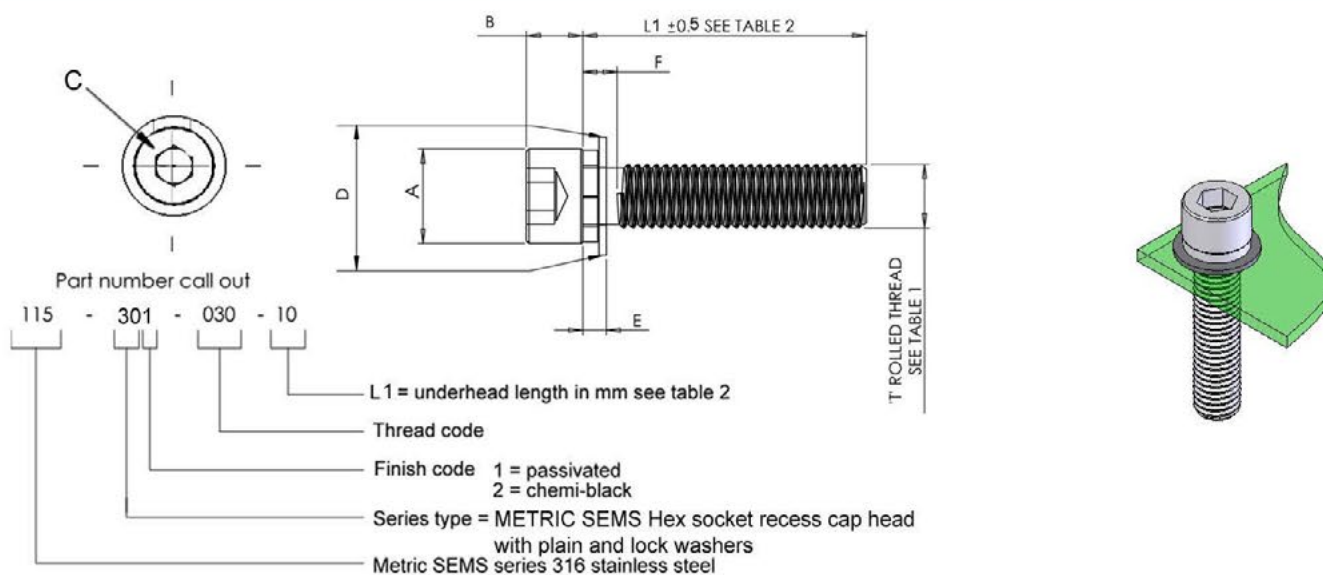


TABLE 1							
Thread code	Thread "T" class 6g	A Head dia	B Head ht	C A/F recess	D Washer Diam	E (1)	F (2)/(3)
025	M2.5 X 0.45	4.5	2.5	2	6.5/6.2	1.3	2.1
030	M3 X 0.5	5.5	3.0	2.5	7.0/6.7	1.4	2.6
040	M4 X 0.7	7.0	4.0	3	9.0/8.7	1.5	3.0
050	M5 X 0.8	8.5	5.0	4	10.0/9.7	1.9	3.6
060	M6 X 1.0	10.0	6.0	5	12.5/12.1	2.2	4.5
082	M8 X 1.25	13.0	8.0	6	17.0/16.6	2.8	5.7
105	M10 X 1.5	16.0	10.0	8	21.0/20.5	3.0	6.5

All head dimensions are to BS EN ISO 4762 :2004 / DIN 912 , lock washer to DIN6905

Plain washer to BS 4320(1969) or equivalent

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled except as stated by Note(3) in Table 2

TABLE 2									
L1 code	L1 dim	M2	M2.5	M3	M4	M5	M6	M8	M10
06	6	*	*	*					
08	8	*	*	*	*				
10	10	*	*	*	*	*			
12	12	*	*	*	*	*	*		
16	16	*(3)	*(3)	*	*	*	*	*	
20	20		*(3)	*	*	*	*	*	*
25	25			*(3)	*(3)	*	*	*	*
30	30			*(3)	*(3)	*(3)	*	*	*
35	35				*(3)	*(3)	*(3)	*	*
40	40				*(3)	*(3)	*(3)	*(3)	*
45	45					*(3)	*(3)	*(3)	*(3)
50	50					*(3)	*(3)	*(3)	*(3)
(3) Min full thread length		10	12	15	15	20	25	30	35

* Standard lengths

(4)* Standard underhead lengths are shown above, other lengths are available and are called out by the last two digits of the part number. The nominal full thread for lengths not in table 2 are as per note (3) e.g. part no 115-301-030-34 will have a nominal full thread length of 15mm

SEMS Fasteners

Metric Sems 115-31(X) Series Cross Recess Pan Head With Plain And Lock Washers

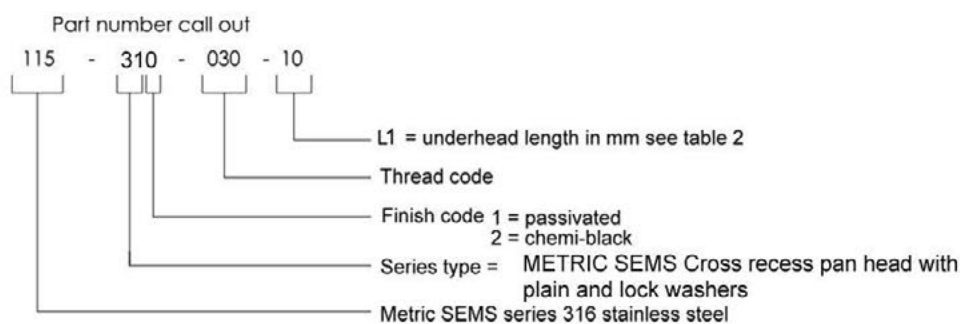
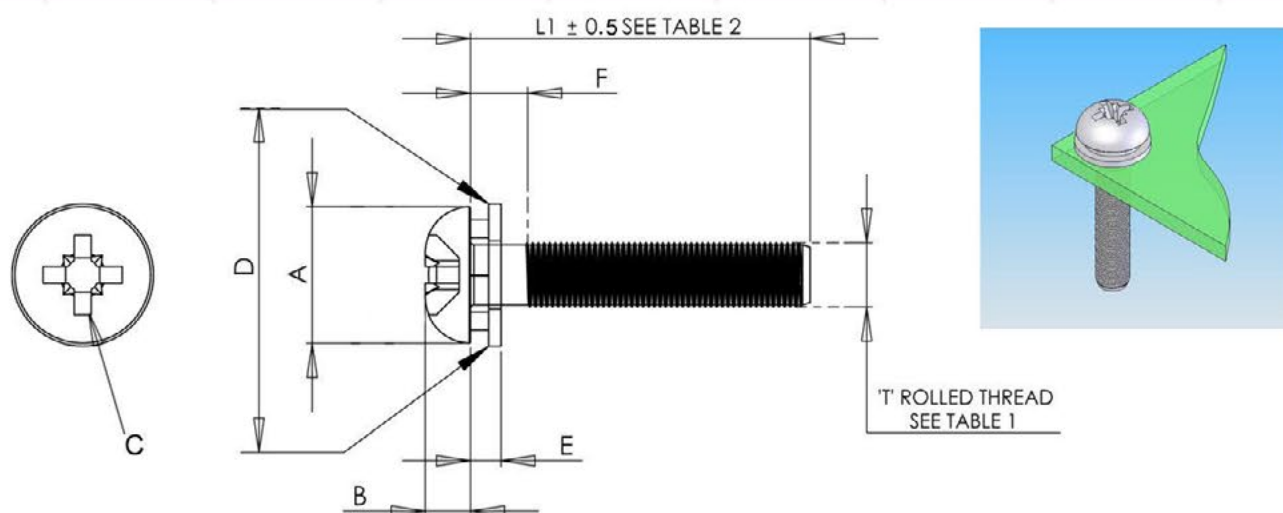


TABLE 1							
Thread code	Thread "T"	A Head dia	B Head ht	C Driver Pt No	D Washer Diam	E (1)	F (2)(3)
030	M3 x 0.5	6.0	2.4	1	7.0/6.7	1.4	2.6
040	M4 x 0.7	8.0	3.1	2	9.0/8.7	1.5	3.0
050	M5 x 0.8	10.0	3.8	2	10.0/9.7	1.9	3.6
060	M6 x 1.0	12.0	4.6	3	12.5/12.1	2.2	4.5

All head dimensions to DIN 7985 type Z recess, lock washer to DIN6905

Plain washer to BS 4320(1968) or Equivalent

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

TABLE 2									
L1 code	L1 dim			M3	M4	M5	M6		
06	6			*					
08	8			*	*				
10	10			*	*	*			
12	12			*	*	*	*		
16	16			*	*	*	*		
20	20			*	*	*	*		
25	25			*(3)	*(3)	*	*		
30	30			*(3)	*(3)	*(3)	*		
(3) Nom full thread length				15	15	20	25		

(4)* Standard underhead lengths are shown above, other lengths are available and are called out by the last two digits of the part number. The nominal full thread for lengths not in table 2 are as per note (3) e.g. part no 115-311-030-34 will have a nominal full thread length of 15mm

ISSUE 2 110216

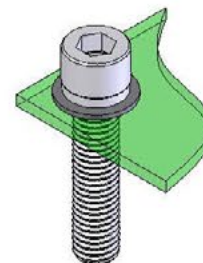
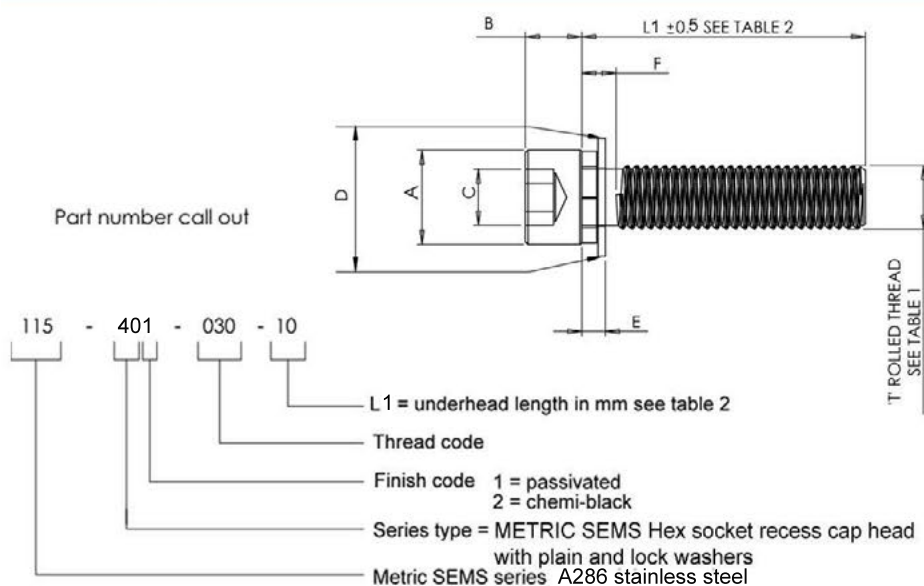
Metric Sems 115-40(X) Series Hex Socket Recess Cap Head
With Plain And Lock Washers In A286 Stainless Steel

TABLE 1							
Thread code	Thread "T" class 6g	A Head dia	B Head ht	C A/F recess	D Washer Diam	E (1)	F (2)(3)
020	M2 x 0.4	3.8	2.0	1.5	5.0/4.7	0.8	1.7
025	M2.5 x 0.45	4.5	2.5	2	6.5/6.2	1.1	2.1
030	M3 x 0.5	5.5	3.0	2.5	7.0/6.7	1.3	2.6
040	M4 x 0.7	7.0	4.0	3	9.0/8.7	1.7	3.3
050	M5 x 0.8	8.5	5.0	4	10.0/9.7	2.2	4.2
060	M6 x 1.0	10.0	6.0	5	12.5/12.1	2.4	5.0
082	M8 x 1.25	13.0	8.0	6	17.0/16.6	3.0	6.2
105	M10 x 1.5	16.0	10.0	8	21.0/20.5	3.5	8.1

All head dimensions are to BS EN ISO 4762 :2004 / DIN 912 , lock washer to BS4464

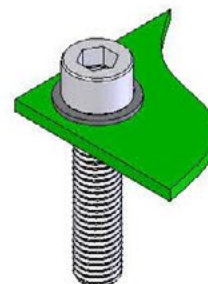
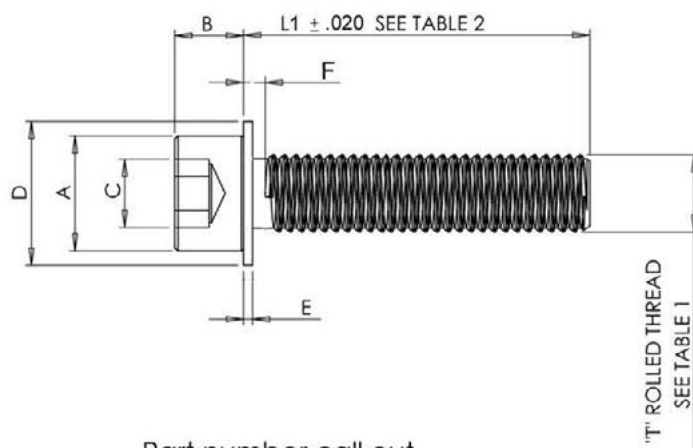
(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled except as stated by Note(3) in Table 2

TABLE 2									
L1 code	L1 dim	M2	M2.5	M3	M4	M5	M6	M8	M10
06	6	*	*	*					
08	8	*	*	*	*				
10	10	*	*	*	*	*			
12	12	*	*	*	*	*	*		
16	16	*(3)	*(3)	*	*	*	*	*	
20	20		*(3)	*	*	*	*	*	*
25	25			*(3)	*(3)	*	*	*	*
30	30			*(3)	*(3)	*(3)	*	*	*
35	35				*(3)	*(3)	*(3)	*	*
40	40				*(3)	*(3)	*(3)	*(3)	*
45	45					*(3)	*(3)	*(3)	*(3)
50	50					*(3)	*(3)	*(3)	*(3)
(3) Min full thread length		10	12	15	15	20	25	30	35
* Standard lengths									

SEMS Fasteners

Inch Sems 116-01(X) Series Hex Socket Recess Cap
Head With Plain Washer



Part number call out

116 - 011 - 0440 - 10 P

Thread Lock Patch to Mil-F-18240 (leave blank if not required)
L1 = underhead length 10 X 16th = 0.625 see table 2

Thread code

Finish code 1 = passivated
2 = chemi-black

Series Type = INCH SEMS Hex recess socket cap head
with plain washer

INCH SEMS series 316 stainless steel

Table 1

Thread code	Thread "T"	A	B	C	D	E	F
	Class 2A	Head dia max	Head ht max	Socket size	Washer Diam	Max	(1)
0256	2-56 UNC	0.140	0.086	1/16	.185/.180	.020	.037
0440	4-40 UNC	0.183	0.112	5/64	.244/.236	.020	.045
0632	6-32 UNC	0.226	0.138	3/32	.295/.290	.020	.051
0832	8-32 UNC	0.270	0.164	1/8	.341/.336	.030	.061
1032	10-32 UNF	0.312	0.190	5/32	.391/.386	.034	.065
0428	1/4-28 UNF	0.375	0.250	3/16	.562/.557	.038	.073

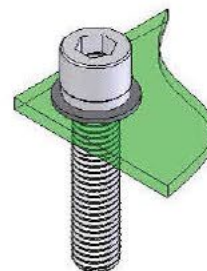
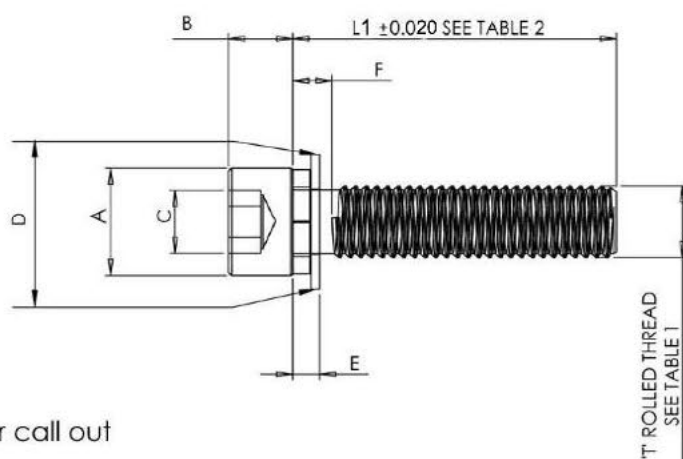
all head dimensions to BS2470:1973

(1) Distance before full thread starts when assembled

TABLE 2
DASH NUMBERS / L1 DIMENSIONS

THREAD SIZE	-04 0.250	-05 0.312	-06 0.375	-07 0.437	-08 0.500	-10 0.625	-12 0.750	-16 1.000
2-56	*	*	*	*	*	*	*	*
4-40	*	*	*	*	*	*	*	*
6-32	N/A	*	*	*	*	*	*	*
8-32	N/A	*	*	*	*	*	*	*
10-32	N/A	N/A	*	*	*	*	*	*
1/4-28	N/A	N/A	N/A	N/A	*	*	*	*

ISSUE 4 110413



Part number call out

116 - 021 - 0440 - 10

L = underhead length 10 X 16th = 0.625 see table 2

Thread code

Finish code 1 = passivated
2 = chemi-blackSeries type = INCH SEMS Hex recess socket cap head
with plain and lock washers

INCH SEMS series with 316 stainless steel

Table 1

Thread code	Thread "T"	A Head dia max	B Head ht max	C Socket size	D Flat Washer Diam	E (1)	F (2)
0256	2-56 UNC	0.140	0.086	1/16	.185/.180	.040	.078
0440	4-40 UNC	0.183	0.112	5/64	.244/.236	.045	.095
0632	6-32 UNC	0.226	0.138	3/32	.295/.290	.051	.113
0832	8-32 UNC	0.270	0.164	1/8	.341/.336	.068	.139
1032	10-32UNF	0.312	0.190	5/32	.391/.386	.079	.157
0428	1/4-28UNF	0.375	0.250	3/16	.562/.557	.098	.195

all head dimensions to BS2470:1973

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

lock washers to MS35338

TABLE 2
DASH NUMBERS / L1 DIMENSIONS

THREAD SIZE	-04 0.250	-05 0.312	-06 0.375	-07 0.437	-08 0.500	-10 0.625	-12 0.750	-16 1.000
2-56	*	*	*	*	*	*	*	*
4-40	*	*	*	*	*	*	*	*
6-32	N/A	*	*	*	*	*	*	*
8-32	N/A	*	*	*	*	*	*	*
10-32	N/A	N/A	*	*	*	*	*	*
1/4-28	N/A	N/A	N/A	N/A	*	*	*	*

ISSUE 5 050711

SEMS Fasteners

Inch Sems 116-03(X) Series Hex Socket Recess Cap Head With Small Diameter Plain Washer

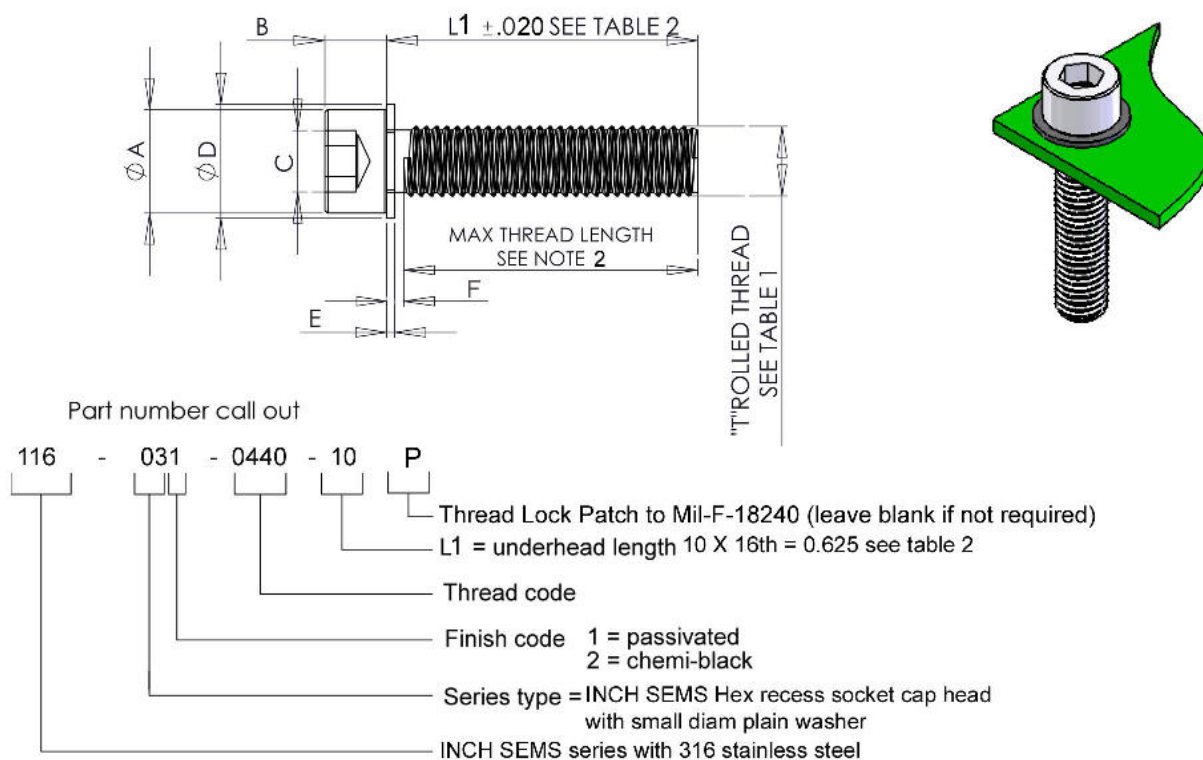


Table 1

Thread code	Thread "T" Class 2A	A Head dia max	B Head ht max	C Socket size	D Washer Dia max	E Max	F (2)
0440	4-40 UNC	0.183	0.112	5/64	.224	.022	.045

all head dimensions to BS2470:1973

(1) Distance before full thread starts when assembled

(2) Distance before full thread starts when assembled up to -10, for all lengths over -10 maximum thread length will be 0.625

Table 2

DASH NUMBERS / L1 DIMENSIONS

THREAD SIZE	-04 0.250	-05 0.312	-06 0.375	-07 0.437	-08 0.500	-10 0.625	-12 0.750	-16 1.000	-26 1.625
4-40	*	*	*	*	*	*	(2)*	(2)*	(2)*

ISSUE 4 110413

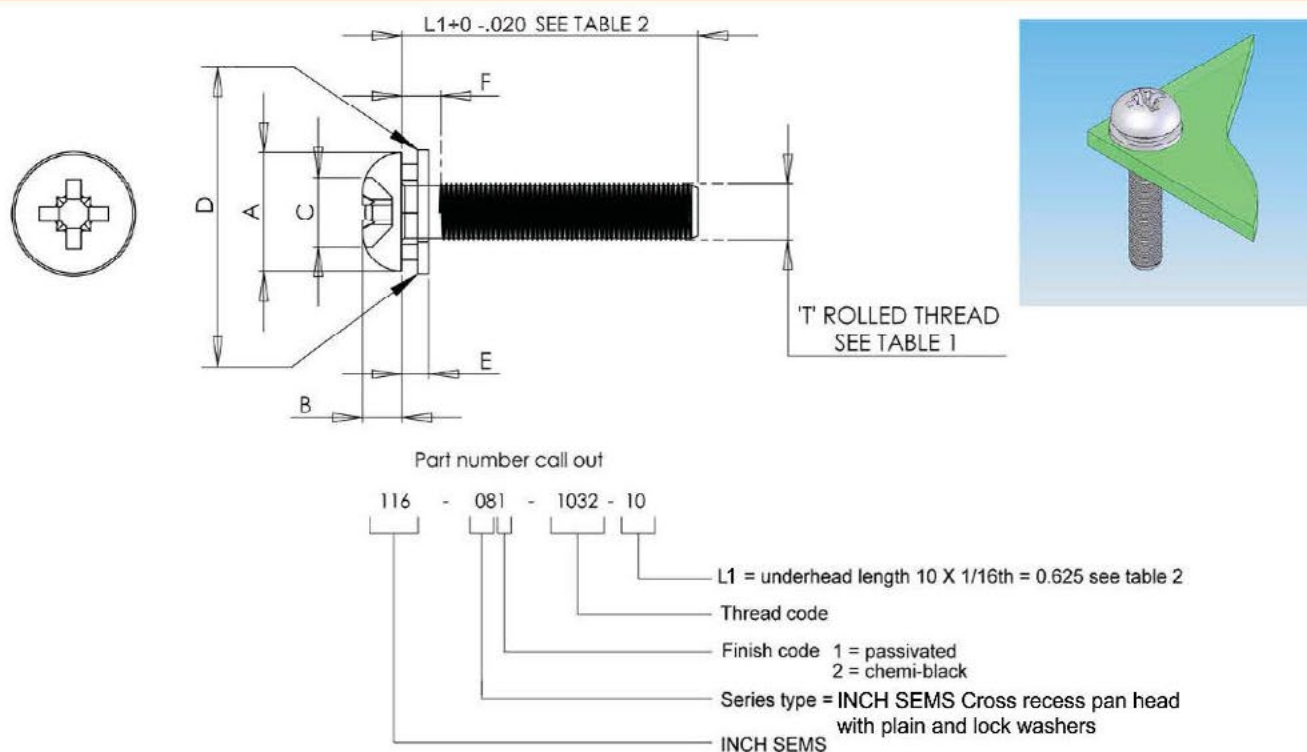


Table 1

Thread	Thread "T"	A	B	C	D	E	F
code	Class 2A	Head dia max	Head ht max	Recess size	Flat Washer Diam	(1)	(2)
0256	2-56 UNC	0.167	.062	No1	.185/.180	.040	.078
0440	4-40 UNC	0.219	.080	No1	.244/.236	.045	.095
0632	6-32 UNC	0.270	.097	No2	.295/.290	.051	.113
0832	8-32 UNC	0.322	.115	No2	.341/.336	.068	.139
1032	10-32UNF	0.373	.133	No2	.391/.386	.079	.157
0428	1/4-28UNF	0.492	.175	No3	.562/.557	.098	.195

all head dimensions to BS1901:1991 type 'Z' recess

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

Lock washers to MS35338

TABLE 2

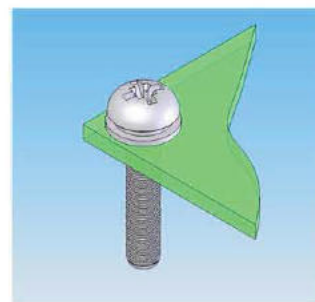
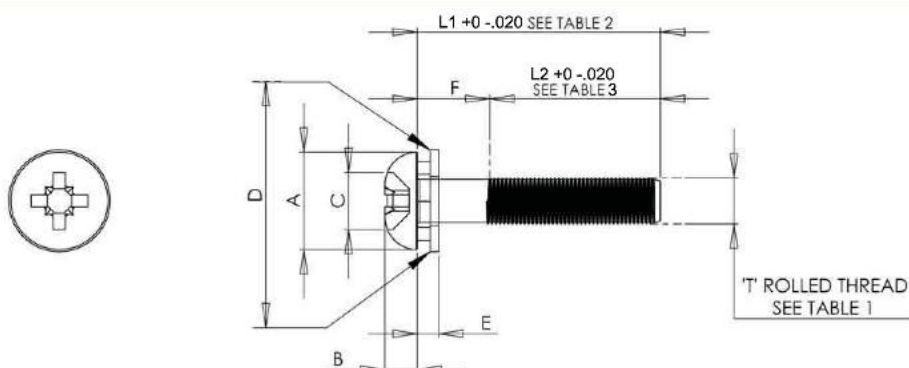
DASH NUMBERS / L1 DIMENSIONS

THREAD	-04	-05	-06	-07	-08	-10	-12	-16
SIZE	.250	.312	.375	.437	.500	.625	.750	1.000
2-56	*	*	*	*	*	*	*	N/A
4-40	*	*	*	*	*	*	*	N/A
6-32	N/A	*	*	*	*	*	*	*
8-32	N/A	*	*	*	*	*	*	*
10-32	N/A	N/A	*	*	*	*	*	*
1/4-28	N/A	N/A	N/A	N/A	*	*	*	*

ISSUE 8 050711

SEMS Fasteners

Inch Sems 116-09(X) Series Cross Recess Pan Head
With Plain And Lock Washers. Increased Shank Length



Part number call out

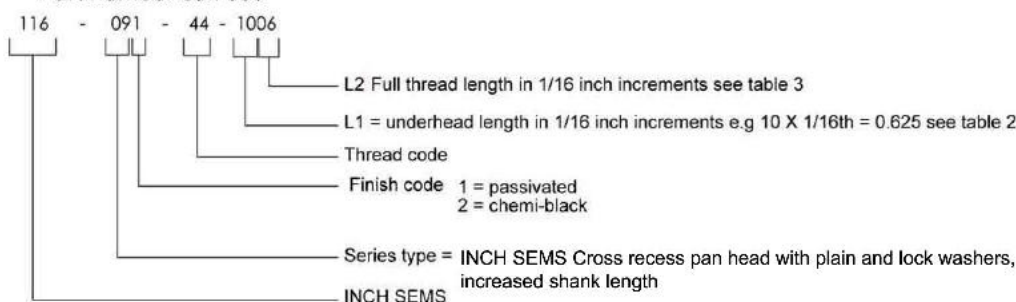


TABLE 1

Thread code	Thread "T"	A	B	C	D	E	F
	Class 2A	Head dia max	Head ht max	Recess size	Flat Washer Diam	(1)	(2)
44	4-40 UNC	0.219	.080	No1	.244/ .236	.045	.095
63	6-32 UNC	0.270	.097	No2	.295/ .290	.051	.113
83	8-32 UNC	0.322	.115	No2	.341/ .336	.068	.139
103	10-32 UNF	0.373	.133	No2	.391/ .386	.079	.157

all head dimensions to BS1981:1991 type 'Z' recess
(1) Dimension of washers in compressed state
(2) Distance before full thread starts when assembled
Lock washer to MS35338

TABLE 2

DASH NUMBERS / L1 DIMENSIONS

THREAD SIZE	-04	-05	-06	-07	-08	-10	-12	-16
	0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000
4-40	*	*	*	*	*	*	*	*
6-32	N/A	N/A	*	*	*	*	*	*
8-32	N/A	N/A	N/A	*	*	*	*	*
10-32	N/A	N/A	N/A	N/A	*	*	*	*

TABLE 3

DASH NUMBERS / L2 DIMENSIONS

THREAD SIZE	-02	-03	-04	-05	-06	-07	-08	-10	-12	-16
	0.125	0.187	0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000
2-56	*	*	*	*	*	*	*	*	*	*
4-40	*	*	*	*	*	*	*	*	*	*
6-32	N/A	*	*	*	*	*	*	*	*	*
8-32	N/A	N/A	*	*	*	*	*	*	*	*
10-32	N/A	N/A	*	*	*	*	*	*	*	*

NB Minimum screw length is equal to L2 + dimn F

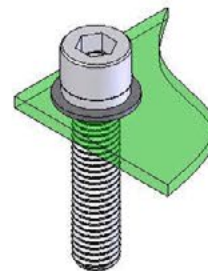
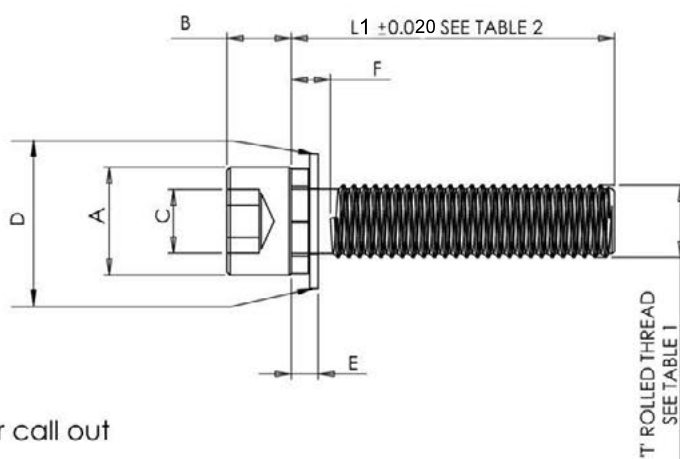
e.g. on a 440 UNC screw the minimum underhead length L1 = .095 + .125 = 0.22
which is rounded to the nearest 1/16=.04

To create a screw with plain shank to captivate it in a panel remember to allow for the washer in the free state dimn E

e.g. 116-091-44-0703 L1=0.437, L2+0.187, E =0.045

Therefore plain shank =0.437 - 0.187 - 0.045 = 0.205

ISSUE 5 050711



Part number call out

116 - 401 - 0440 - 10

L1 = underhead length 10 X 16th = 0.625 see table 2

Thread code

Finish code 1 = passivated
2 = chemi-blackSeries type = INCH SEMS Hex recess socket cap head
with plain and lock washers

INCH SEMS series A286 stainless steel

Table 1

Thread	Thread "T"	A	B	C	D	E	F
code	CLASS 2A	Head dia max	Head ht max	Socket size	Flat Washer Diam	(1)	(2)
0256	2-56 UNC	0.140	0.086	1/16	.185/.180	.040	.078
0440	4-40 UNC	0.183	0.112	5/64	.244/.236	.045	.095
0632	6-32 UNC	0.226	0.138	3/32	.295/.290	.051	.113
0832	8-32 UNC	0.270	0.164	1/8	.341/.336	.068	.139
1032	10-32UNF	0.312	0.190	5/32	.391/.386	.079	.157
0428	1/4-28UNF	0.375	0.250	3/16	.562/.557	.098	.195

all head dimensions to BS2470:1973

(1) Dimension of washers in compressed state

(2) Distance before full thread starts when assembled

lock washers to MS35338

TABLE 2
DASH NUMBERS / L1 DIMENSIONS

THREAD SIZE	-04	-05	-06	-07	-08	-10	-12	-16
	0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000
2-56	*	*	*	*	*	*	*	*
4-40	*	*	*	*	*	*	*	*
6-32	N/A	*	*	*	*	*	*	*
8-32	N/A	*	*	*	*	*	*	*
10-32	N/A	N/A	*	*	*	*	*	*
1/4-28	N/A	N/A	N/A	N/A	*	*	*	*

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