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FOREWORD OF THE MANUFACTURER ABOUT THE TECHNICAL SHEETS

To ensure a safe male / female clamping condition, it is important to consider a combination of the following parameters when designing controlled bolt joint assemblies using self locking nuts (HFR).

1. SELECTION OF THE CORRECT GRADE OF RAW MATERIAL
2. TIGHTENING TORQUE (NM)
3. TENSION IN THE BOLT (KN)
4. PREVAILING TORQUE (NM)
5. COEFFICIENT OF FRICTION
6. SURFACE TREATMENT

In order to achieve a security fastening in conformity with industry standards, the 6 points above must be respected.

The following technical sheets will aid you in the selection of the self-locking nut adapted to your requirements.

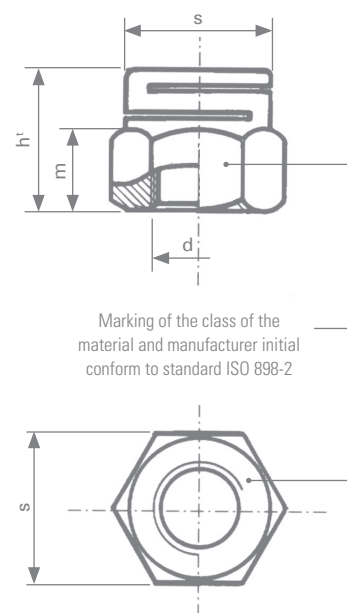


Definition: All metals reusable slotted self-locking hexagon nut standard to the NFE 25 411 and SNCF ST 001-002 FPN6

Threading: Standard to ISO 965-2

Characteristic and performance test: NF EN ISO 2320 / ISO 898-2

d	pitch	s	ht	m
M 2	0,40	4,00	4,50	2,30
M 2,5	0,45	5,00	4,50	2,30
M 3	0,50	5,50	4,50	2,50
M 4	0,70	7,00	5,30	2,60
M 5	0,80	8,00	6,30	3,00
M 6	1,00	10,00	7,00	3,60
M 7	1,00	11,00	8,10	4,80
M 8	1,25	13,00	8,80	4,80
M 10	1,50	16,00	11,00	6,00
M 12	1,75	18,00	13,00	7,20
M 14	2,00	21,00	15,00	8,40
M 16	2,00	24,00	18,70	11,50
M 18	2,50	27,00	20,00	11,50
M 20	2,50	30,00	21,00	12,00
M 22	2,50	32,00	21,50	12,50
M 24	3,00	36,00	25,50	15,40
M 27	3,00	41,00	28,00	17,00
M 30	3,50	46,00	31,50	18,50
M 33	3,50	50,00	32,00	18,70
M 36	4,00	55,00	34,50	19,50
M 39	4,00	60,00	37,00	20,50
M 42	4,50	65,00	39,50	23,00
M 45	4,50	70,00	43,00	24,00
M 48	5,00	75,00	46,00	25,00



Quality class	Classification	Range of application
Class 8 steel	QV	Self-color -50° C + 300° C (as an indication)
Class 10 steel	QK	
Class 12 steel	QL	

Others: Brass - Bronze - Light alloy - Titanium...

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code					
	Type	Diam X pitch	Class	Protection	
classification	ESL	100150	QV	ZL	00
wording	ESL	M10 X 1,50	8	Zinc Lanthane ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



ESL

NUT HRF TYPE

STAINLESS STEEL

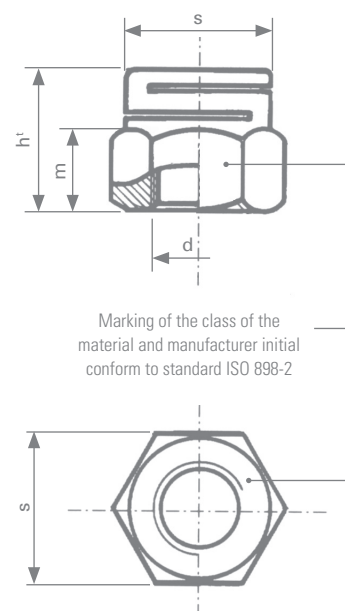
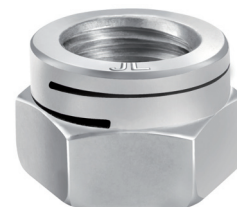
May 2012

Definition: All metals reusable slotted self-locking hexagon nut standard to the NFE 25 411 and SNCF ST 001-002 FPN6

Threading: Standard to ISO 965-2

Characteristic and performance test: NF EN ISO 3506-2 / ISO 2320 CL8

d	pitch	s	ht	m
M 2	0,40	4,00	4,50	2,30
M 2,5	0,45	5,00	4,50	2,30
M 3	0,50	5,50	4,50	2,50
M 4	0,70	7,00	5,30	2,60
M 5	0,80	8,00	6,30	3,00
M 6	1,00	10,00	7,00	3,60
M 7	1,00	11,00	8,10	4,80
M 8	1,25	13,00	8,80	4,80
M 10	1,50	16,00	11,00	6,00
M 12	1,75	18,00	13,00	7,20
M 14	2,00	21,00	15,00	8,40
M 16	2,00	24,00	17,00	9,50
M 18	2,50	27,00	19,50	11,50
M 20	2,50	30,00	21,00	12,00
M 22	2,50	32,00	21,50	12,50
M 24	3,00	36,00	25,50	15,40
M 27	3,00	41,00	28,00	17,00
M 30	3,50	46,00	31,50	18,50
M 33	3,50	50,00	32,00	18,70
M 36	4,00	55,00	34,50	19,50
M 39	4,00	60,00	37,00	20,50
M 42	4,50	65,00	39,50	23,00
M 45	4,50	70,00	43,00	24,00
M 48	5,00	75,00	46,00	25,00



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2

Quality class	Classification	Range of application
Stainless steel A2-70	ZE	-200° C + 400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-80	ZH	

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)		
Passivation :		PA
Antigalling:	Stanal ® 400 (NF E 25035)	ST
	Sherardisation (NF EN 13811)	SH
Self color:		BT

Example of ordering code					
	Type	Diam X pitch	Class	Protection	
classification	ESL	100150	ZH	ST	00
wording	ESL	M10 X 1,50	A4 80	Stanal ® 400	*

*Standard size

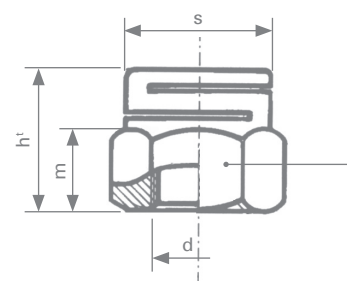
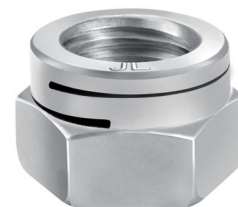
On request: other materials, plating, sizes, imperial thread

Definition: All metals reusable slotted self-locking hexagon nut standard to the NFE 25 411 and SNCF ST 001-002 FPN6

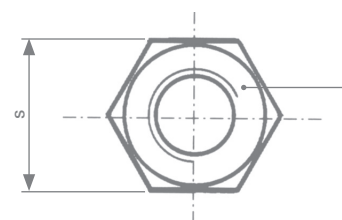
Threading: Series UNC - UNF AOSO B1.1 and BS 1580 (BSF/BSW on request)

Characteristic and performance test: ISO 2320 / ISO 898-2 NF EN ISO 3506-2 (Stainless steel)

d / inches	d / mm	pitch / UNC	pitch / UNF	s / mm	ht / mm	mm / mm	Codes
N°8	4,16	32 f	36 f	8,00	5,30	2,60	H
N°10	4,82	24 f	32 f	9,00	6,30	3,00	I
1/4	6,35	20 f	28 f	11,00	7,50	4,00	K
5/16	7,94	18 f	24 f	13,00	8,80	4,80	L
3/8	9,52	16 f	24 f	14,00	8,80	4,80	M
7/16	11,11	14 f	20 f	17,00	11,00	6,00	N
1/2	12,70	13 f	20 f	18,00	13,00	7,20	O
9/16	14,29	12 f	18 f	22,00	15,00	8,00	P
5/8	15,87	11 f	18 f	24,00	17,00	9,50	Q
3/4	19,05	10 f	16 f	28,00	21,00	12,00	R
7/8	22,22	9 f	14 f	33,00	22,00	12,50	S
1	25,40	8 f	12 f	41,00	24,00	13,50	T
1 1/4	31,75	7 f	12 f	46,00	29,50	16,00	V
1 1/2	38,10	6 f	12 f	55,00	32,00	17,50	X
1 3/4	44,45	5 f	-	on request			Z
2	50,80	4 f	-	75,00	46,00	25,50	Y



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2



Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C corrosive atmosphere ⁽¹⁾
Stainless steel A4-80 / AISI 316L	ZH	
Others: Brass - Bronze - Light alloy - Titanium...		

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	ESL	N00UNC	QV	ZL	00
wording	ESL	ø 7/16" UNC	8	Zinc Lanthane®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

Definition: All metals reusable slotted self-locking hexagon nut

Threading: Standart to ISO 965-2

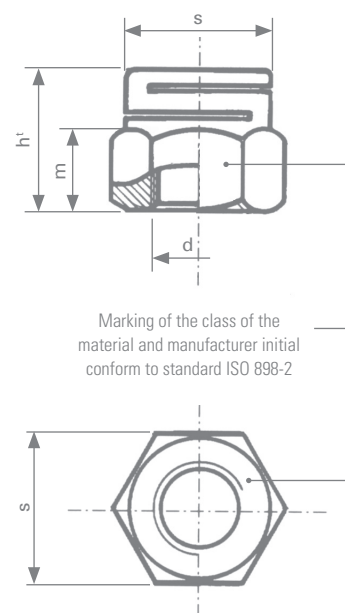
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2 and NF E 25035

d / inches	d / mm	pitch / UNC	pitch / UNF	s / min.	ht / max.	ht	m
N°1	1,854	64 f	72 f	6,172	6,375	5,30	2,60
N°2	2,184	56 f	64 f	6,172	6,375	5,30	2,60
N°3	2,515	48 f	56 f	6,172	6,375	5,30	2,60
N°4	2,845	40 f	48 f	6,172	6,375	5,30	2,60
N°5	3,175	40 f	44 f	6,172	6,375	5,30	2,60
N°6	3,505	32 f	40 f	7,747	7,950	6,30	3,00
N°8	4,166	32 f	36 f	8,534	8,763	6,30	3,00
N°10	4,826	24 f	32 f	9,321	9,550	6,30	3,00
N°12	5,486	24 f	28 f	10,871	11,125	7,50	4,50
1/4	6,350	20 f	28 f	10,871	11,125	7,50	4,50
5/16	7,938	18 f	24 f	12,420	12,700	8,80	4,80
3/8	9,525	16 f	24 f	13,995	14,274	8,80	4,80
7/16	11,113	14 f	20 f	17,145	17,475	11,00	6,00
1/2	12,700	13 f	20 f	18,694	19,050	13,00	7,20
9/16	12,032	12 f	18 f	21,869	22,225	15,00	8,00
5/8	15,875	11 f	18 f	23,418	23,825	17,00	9,50
3/4	19,050	10 f	16 f	27,635	28,575	21,00	12,00
7/8	22,225	9 f	14 f	32,232	33,324	22,00	12,50
1	25,400	8 f	12 f	36,830	38,100	24,00	13,50
1 1/8	28,575	7 f	12 f	41,427	42,875	25,00	14,00
1 1/4	31,750	7 f	12 f	46,024	47,701	29,50	16,00
1 3/8	34,925	6 f	12 f	50,647	52,374	32,00	17,00
1 1/2	38,100	6 f	12 f	55,245	57,150	35,00	18,50

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	
Others: Brass - Bronze - Light alloy - Titanium...		

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	



Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	ESL	N00UNC	QV	ZL	00
wording	ESL	ø 7/16" UNC	8	Zinc Lanthane®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

Definition: All metals reusable slotted self-locking hexagon flange nut with free washer

Threading: Standard to ISO 965-2

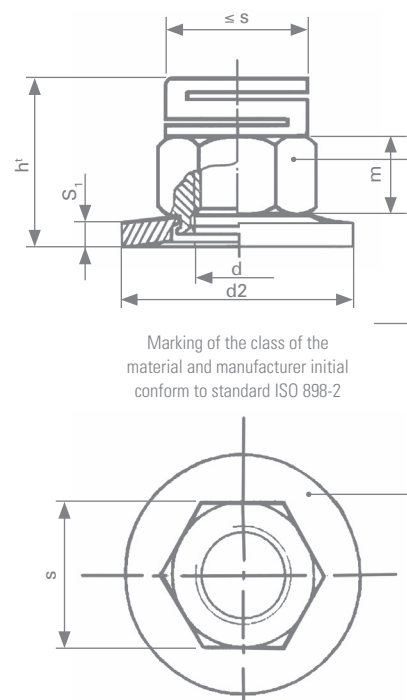
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel NF EN ISO 3506-2

d	pitch	s	ht	m	d ₂ *	s ₁
M 4	0,70	7,00	7,00	2,60	12,00	1,10
M 5	0,80	8,00	8,50	3,00	14,00	1,30
M 6	1,00	10,00	9,00	4,50	18,00	1,40
M 8	1,25	13,00	11,00	4,80	22,00	1,60
M 10	1,50	16,00	13,40	6,00	22,00 / 27,00	1,80
M 12	1,75	18,00	15,80	7,20	27,00	1,80
M 14	2,00	21,00	17,80	8,40	30,00	2,40
M 16	2,00	24,00	19,80	9,50	40,00	3,20

Sizes: * Only an indication. On request for other type and other diameter of washers

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-80 / AISI 316L	ZH	
Others: Brass - Bronze - Light alloy - Titanium...		

⁽¹⁾ Values given are only an indication



Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code					
	Type	Diam X pitch	Class	Protection	
classification	ERM	100150	ZH	ST	00
wording	ERM	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

Definition: All metals reusable slotted self-locking hexagon flange nut with free washer

Threading: Series UNC / UNF – BSF / BSW on request

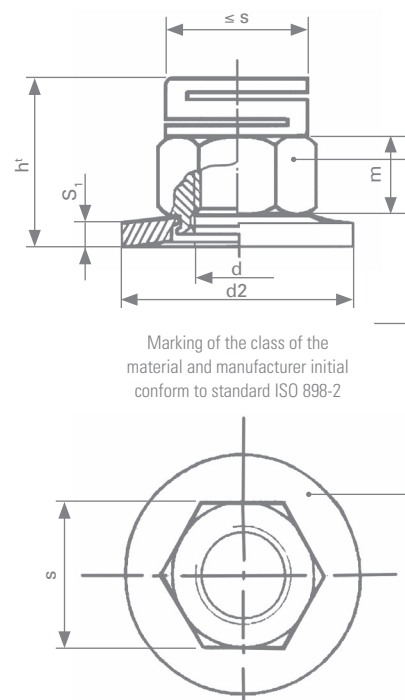
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel NF EN ISO 3506-2

d nominal	pitch / UNC	pitch / UNF	s	ht	m	d ₂ *	s ₁	codes
N°10	24 f	32 f	9,00	8,00	3,00	14,00	1,30	I
1/4	20 f	28 f	11,00	9,50	4,00	18,00	1,40	K
5/16	18 f	24 f	13,00	10,80	4,80	22,00	1,60	L
3/8	16 f	24 f	14,00	10,80	4,80	22,00	1,60	M
7/16	14 f	20 f	17,00	13,50	6,00	27,00	1,80	N
1/2	13 f	20 f	18,00	15,80	7,20	30,00	2,40	O
5/8	11 f	18 f	24,00	21,00	9,50	40,00	3,20	Q
3/4	10 f	16 f	28,00	25,00	12,00	40,00	3,20	R

* Different type and diameter of washers can be supplied on request

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication



Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code					
	Type	Diam X pitch	Class	Protection	
classification	ERM	N00UNF	QV	ZL	00
wording	ERM	ø 7/16" UNF	8	Zinc Lanthane®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

Definition: All metals reusable two slotted self-locking hexagon nut

Threading: Standard to ISO 965-2

Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506
and NF E 25035

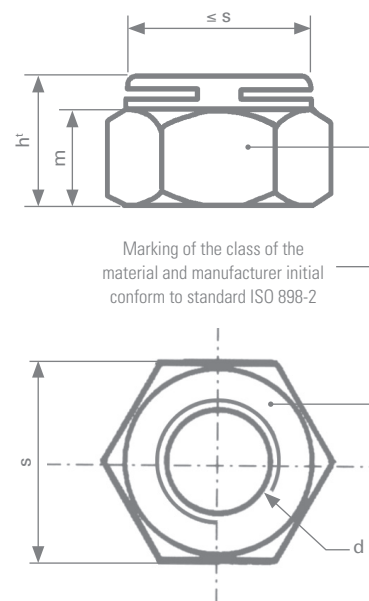
Range of operations: From diameter M4 to M45

d nominal	pitch	ht	m	s
M 4	0,70	4,50	2,50	7,00
M 5	0,80	4,80	2,60	8,00
M 6	1,00	5,20	2,70	10,00
M 8	1,25	6,00	3,50	13,00
M 10	1,50	7,50	4,50	17,00
M 12	1,75	9,00	5,50	19,00
M 14	2,00	11,00	7,00	22,00
M 16	2,00	12,00	8,00	24,00
M 18	2,50	14,00	9,50	27,00
M 20	2,50	15,00	10,50	30,00
M 22	2,50	17,00	12,00	32,00
M 24	3,00	19,00	13,00	36,00
M 27	3,00	20,00	14,00	41,00
M 30	3,50	21,50	15,00	46,00
M 33	3,50	23,00	16,50	50,00
M 36	4,00	25,00	18,00	55,00
M 39	4,00	26,00	19,00	60,00
M 42	4,50	30,00	22,00	65,00
M 45	4,50	32,00	24,00	70,00

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	



Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	THM	100150	ZH	ST	00
wording	THM	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

THU

NUT HFR TYPE

IN STANDARD TYPE

May 2012

Definition: All metals reusable two slotted self-locking hexagon nut

Threading: Standard to ISO 965-2

Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

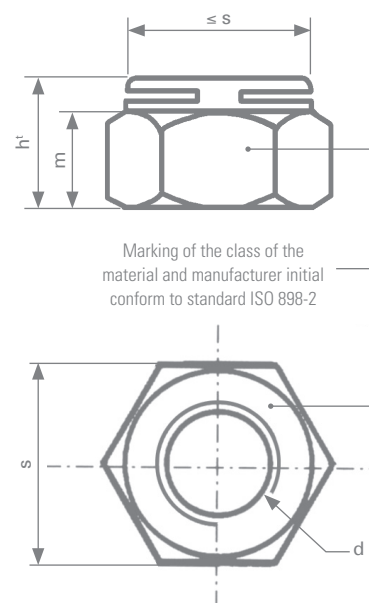
Range of operations: From diameter M4 to M45

d nominal	pitch	ht	m	s
M 4	0,70	5,50	3,50	7,00
M 5	0,80	6,50	4,30	8,00
M 6	1,00	7,50	5,00	10,00
M 8	1,25	8,50	6,00	13,00
M 10	1,50	11,00	8,00	17,00
M 12	1,75	13,00	9,50	19,00
M 14	2,00	15,00	11,00	22,00
M 16	2,00	17,00	13,00	24,00
M 18	2,50	20,00	15,50	27,00
M 20	2,50	22,00	17,50	30,00
M 22	2,50	23,00	18,00	32,00
M 24	3,00	25,00	19,00	36,00
M 27	3,00	27,00	21,00	41,00
M 30	3,50	30,00	23,50	46,00
M 33	3,50	33,00	26,50	50,00
M 36	4,00	36,00	29,00	55,00
M 39	4,00	38,00	31,00	60,00
M 42	4,50	42,00	34,00	65,00
M 45	4,50	45,00	37,00	70,00

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	



Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	THU	100150	ZH	ST	00
wording	THU	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

Definition: All metals self-locking hexagon nut with one slot

Threading: Standard to ISO 965-2

Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

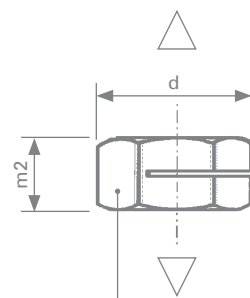
Range of operations: From diameter M5 to M48

d	pitch	m2 - min.	m2 - max.	s
M 5	0,80	3,84	4,08	8,00
M 6	1,00	4,32	4,56	10,00
M 8	1,25	5,71	6,00	13,00
M 10	1,50	7,15	7,44	16,00
M 12	1,75	9,26	9,60	18,00
M 14	2,00	10,72	11,28	21,00
M 16	2,00	12,56	13,12	24,00
M 18	2,50	13,52	14,08	27,00
M 20	2,50	15,2	16,24	30,00
M 22	2,50	16,4	17,44	34,00
M 24	3,00	18,08	19,12	36,00
M 27	3,00	20,32	21,36	41,00
M 30	3,50	21,84	22,88	46,00
M 33	3,50	24,72	26,00	50,00
M 36	4,00	26,48	27,76	55,00
M 39	4,00	28,72	30,00	60,00
M 42	4,50	29,28	30,56	65,00
M 45	4,50	31,12	32,40	70,00
M 48	5,00	32,96	34,24	75,00

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel/grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

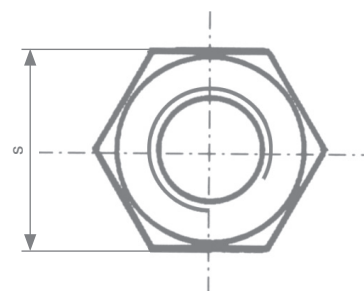
⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2

△ Assembly direction



Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	HCB	100150	ZH	ST	00
wording	HCB	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



HCE

NUT HFR TYPE

May 2012

Definition: All metals self-locking hexagon nut with one slot

Threading: Standard to ISO 965-2

Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2

For stainless steel NF EN ISO 3506-2 and NF E 25035

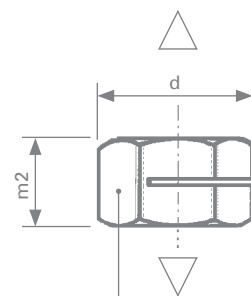
Range of operations: From diameter M4 to M48

d	pitch	m2 - min.	m2 - max.	s
M 4	0,70	3,90	4,10	7,00
M 5	0,80	4,80	5,10	8,00
M 6	1,00	5,40	5,70	10,00
M 8	1,25	7,14	7,50	13,00
M 10	1,50	8,94	9,30	16,00
M 12	1,75	11,57	12,00	18,00
M 14	2,00	13,40	14,10	21,00
M 16	2,00	15,70	16,40	24,00
M 18	2,50	16,90	17,60	27,00
M 20	2,50	19,00	20,30	30,00
M 22	2,50	20,50	21,80	34,00
M 24	3,00	22,60	23,90	36,00
M 27	3,00	25,40	26,70	41,00
M 30	3,50	27,30	28,60	46,00
M 33	3,50	30,90	32,50	50,00
M 36	4,00	33,10	34,70	55,00
M 39	4,00	35,90	37,50	60,00
M 42	4,50	36,60	38,20	65,00
M 45	4,50	38,90	40,50	70,00
M 48	5,00	41,20	42,80	75,00

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

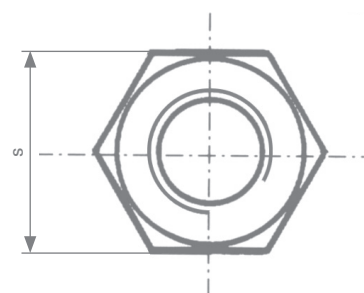
⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2

△ Assembly direction



Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	HCE	100150	ZH	ST	00
wording	HCE	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

HCT

NUT HFR TYPE

May 2012

Definition: All metals self-locking hexagon nut with one slot

Threading: Standard to ISO 965-2

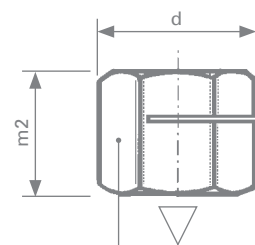
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

Range of operations: From diameter M4 to M48

d	pitch	m2 - min.	m2 - max.	s
M 4	0,70	5,10	5,30	7,00
M 5	0,80	6,24	6,63	8,00
M 6	1,00	7,02	7,41	10,00
M 8	1,25	9,28	9,75	13,00
M 10	1,50	11,62	12,09	16,00
M 12	1,75	15,04	15,60	18,00
M 14	2,00	17,42	18,33	21,00
M 16	2,00	20,41	21,32	24,00
M 18	2,50	21,97	22,88	27,00
M 20	2,50	24,70	26,39	30,00
M 22	2,50	26,65	28,34	34,00
M 24	3,00	29,38	31,07	36,00
M 27	3,00	33,02	34,71	41,00
M 30	3,50	35,49	37,18	46,00
M 33	3,50	40,17	42,25	50,00
M 36	4,00	43,03	45,11	55,00
M 39	4,00	46,67	48,75	60,00
M 42	4,50	47,58	49,66	65,00
M 45	4,50	50,57	52,65	70,00
M 48	5,00	53,56	55,64	75,00

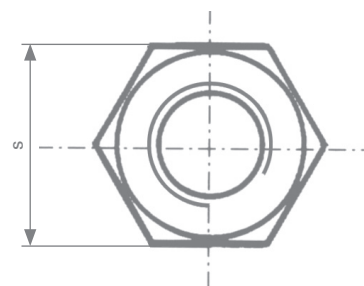
Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2

△ Assembly direction



Surface treatment (standard to ROHS requirements)

Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	HCT	100150	ZH	ST	00
wording	HCT	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

ESF

NUT HFR TYPE

RIVETING

May 2012

Definition: All metals self-locking riveting nut, with locking slot

Threading: Standard to ISO 965-2

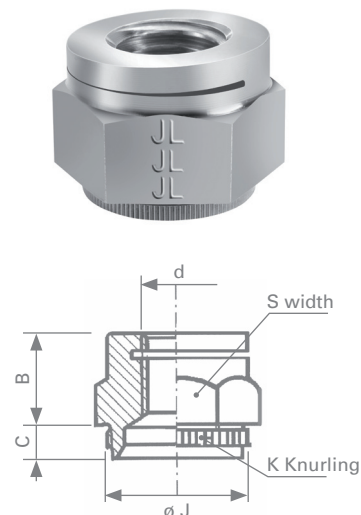
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

d	s	Jo + 0,05	B	C	sheet thickness	ø Boring
M 4	8	6,74	5,3	1,6	1,5	6,55
				2,2	2,0	à
				2,6	2,5	6,65
M 6	11	8,9	7,0	2,2	2,0	8,70
				2,6	2,5	à
				3,4	3,0	8,80
M 8	14	10,50	9,8	2,6	2,5	10,30
				3,4	3,0	à
				4,2	4,0	10,40

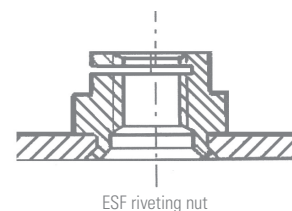
Sizes: The sheet thicknesses were given as examples, please contact us for other thicknesses

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Stainless steel A4-80 / AISI 316L	ZH	corrosive atmosphere -200° C +400° C ⁽¹⁾

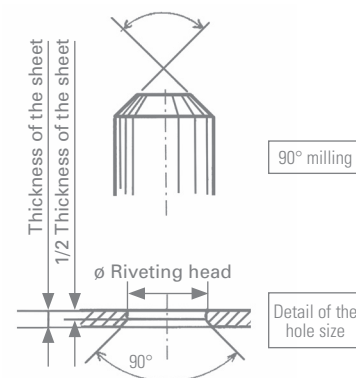
⁽¹⁾ Values given are only an indication



Assembly instruction



ESF riveting nut



Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	ESF	060100	QV	ZL	26
wording	ESF	M6 X 1,00	8	White Lanthane®	2,6*

*Sheet thickness

On request: other materials, plating, sizes, imperial thread

HMP

NUT HFR TYPE

ISO 10511

May 2012

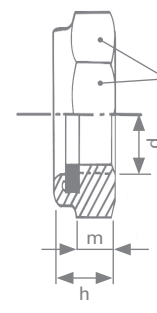
Definition: Self-locking nut with nylon insert

Threading: Standard to ISO 965-2

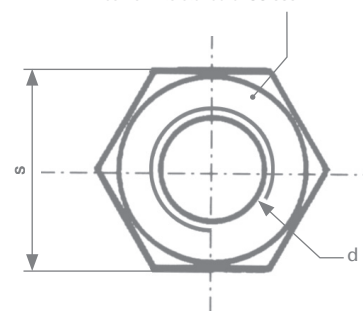
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

Range of operations: From diameter M3 to M36

d	pitch	h - min.	h - max.	m - min.	s
M 3	0,50	3,42	3,90	1,55	5,50
M 4	0,70	4,52	5,00	1,95	7,00
M 5	0,80	4,52	5,00	2,45	8,00
M 6	1,00	5,52	6,00	2,90	10,00
M 8	1,25	6,18	6,76	3,70	13,00
M 10	1,50	7,98	8,56	4,70	16,00
M 12	1,75	9,53	10,23	5,70	18,00
M 14	2,00	10,22	11,32	6,42	21,00
M 16	2,00	11,32	12,42	7,42	24,00
M 18	2,50	14,40	15,50	9,00	27,00
M 20	2,50	13,10	14,90	9,10	30,00
M 24	3,00	16,00	17,80	10,90	36,00
M 27	3,00	20,40	22,20	13,50	41,00
M 30	3,50	20,10	22,20	13,90	46,00
M 36	4,00	23,40	25,50	16,90	55,00



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2



Quality class	Classification	Range of application	
Class 8 steel / grade 5/ class 4	QV	Usual ring	Brown ring
Class 10 steel / grade 8/class 5	QK	-40° C +120° C	-30° C +230° C
Stainless steel A2-70 / AISI 304	ZE		
Stainless steel A4-70 / AISI 316L	ZK		
Stainless steel A4-80 / AISI 316L	ZH		

Surface treatment (standard to ROHS requirements)

Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	HMP	100150	ZH	ST	00
wording	HMP	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

HUP

NUT HFR TYPE

ISO 7040

May 2012

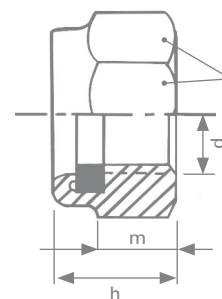
Definition: Self-locking nut with nylon insert

Threading: Standard to ISO 965-2

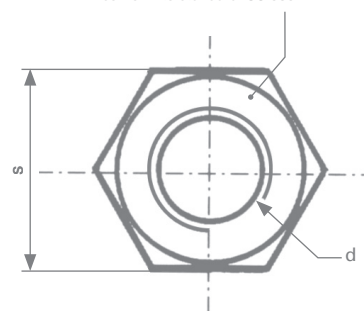
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

Range of operations: From diameter M3 to M36

d	pitch	h - min.	h - max.	m - min.	s
M 3	0,50	4,02	4,50	2,15	5,50
M 4	0,70	5,52	6,00	2,90	7,00
M 5	0,80	6,22	6,80	4,40	8,00
M 6	1,00	7,42	8,00	4,90	10,00
M 8	1,25	8,92	9,50	6,44	13,00
M 10	1,50	11,20	11,90	8,04	16,00
M 12	1,75	14,20	14,90	10,37	18,00
M 14	2,00	15,90	17,00	12,10	21,00
M 16	2,00	17,80	19,10	14,10	24,00
M 18	2,50	21,00	22,30	15,10	27,00
M 20	2,50	20,70	22,80	16,90	30,00
M 24	3,00	25,00	27,10	20,20	36,00
M 27	3,00	30,40	32,50	22,50	41,00
M 30	3,50	30,10	32,60	24,30	46,00
M 36	4,00	36,40	38,90	29,40	55,00



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2



Quality class	Classification	Range of application	
Class 8 steel / grade 5 - Class 04	QV	Usual ring	Brown ring
Class 10 steel / grade 8 - Class. 05	QK		
Stainless steel A2-70 / AISI 304	ZE	-40° C +120° C	-30° C +230° C
Stainless steel A4-70 / AISI 316L	ZK		
Stainless steel A4-80 / AISI 316L	ZH		

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	HUP	100150	ZH	ST	00
wording	HUP	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



Definition: All metals reusable slotted self-locking nut, with nylon insert

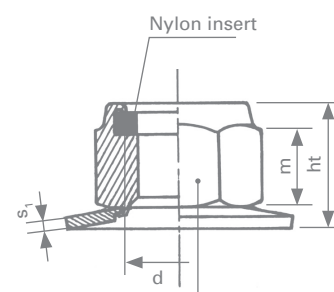
Threading: Standard to ISO 965-2

Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

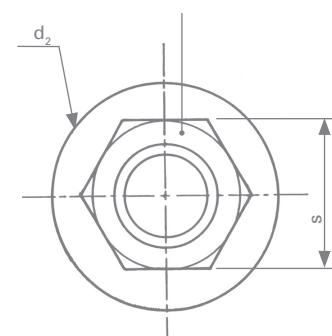
d	pitch	s	ht	m	d ₂ *	s ₁
M 4	0,70	7,00	7,70	3,30	12,00	1,10
M 5	0,80	8,00	8,70	4,50	14,00	1,30
M 6	1,00	10,00	10,10	5,60	18,00	1,40
M 8	1,25	13,00	12,00	7,30	22,00	1,60
M 10	1,50	16,00	14,80	8,40	27,00	1,80
M 12	1,75	18,00	18,40	11,40	27,00 / 30,00 **	1,80
M 14	2,00	21,00	20,50	13,30	32,00	2,40
M 16	2,00	24,00	23,70	14,20	40,00	3,20

Sizes: * Only as an indication different type and diameter of washers can be supplied on request.

** Stainless steel for diameter 27; steel for diameter 30.



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2



Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -40° C +120° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Stainless steel A2-70 / AISI 304	ZE	
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)

Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	EUM	100150	ZH	ST	00
woding	EUM	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



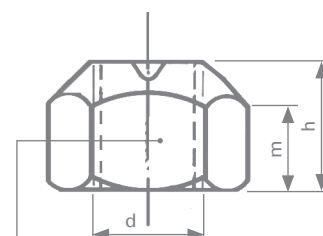
Definition: All metals self-locking hexagon nut, with marking on the top of the nut

Threading: Standard to ISO 965-2

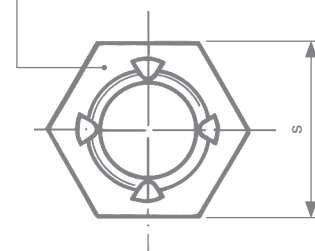
Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

Range of operations: From diameter M5 to M36

d	pitch	h - min.	h - max.	m - min.	s
M 5	0,80	4,80	5,10	3,52	8,00
M 6	1,00	5,40	6,00	3,92	10,00
M 8	1,25	7,14	8,00	5,15	13,00
M 10	1,50	8,94	10,00	6,43	16,00
M 12	1,75	11,57	12,00	8,30	18,00
M 14	2,00	13,40	14,10	9,68	21,00
M 16	2,00	15,70	16,40	11,28	24,00
M 18	2,50	15,80	16,20	12,70	27,00
M 20	2,50	19,00	20,30	13,52	30,00
M 24	3,00	22,60	23,90	16,16	36,00
M 27	3,00	on request			
M 30	3,50	27,30	30,00	19,44	46,00
M 36	4,00	33,10	36,00	23,52	55,00



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2



Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Class 12 steel / grade 10	QL	
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ corrosive atmosphere
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	GSL	100150	ZH	ST	00
wording	GSL	M10 X 1,50	A4 80	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



SRF

FLANGE NUT HFR TYPE

ALL METALS

May 2012

Definition: All metals self-locking hexagon flange nut

Locking by deformation of the last threads given by recessions at the top of the nut

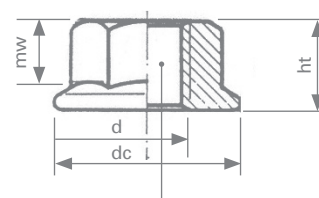
Threading: Standard to ISO 965-2

Characteristic and performance test: For steel NF EN ISO 2320 / ISO 898-2
For stainless steel with antigalling NF EN ISO 3506-2
and NF E 25035

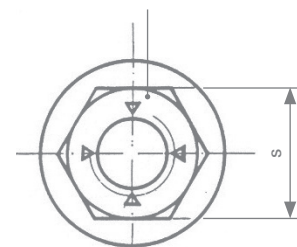
Range of operations: From diameter M5 to M20 (steel)
From diameter M5 to M12 (stainless steel)



d	dc	s	ht	mw
M 5	11,80	8,00	5,00	2,20
M 6	14,20	10,00	6,00	3,10
M 8	17,90	13,00	8,00	4,50
M 10	21,80	15,00	10,00	5,50
M 12	26,00	18,00	12,00	6,70
M 14	29,90	21,00	14,00	7,80
M 16	34,50	24,00	16,00	9,00
M 20	42,80	30,00	20,00	11,10



Marking of the class of the material and manufacturer initial conform to standard ISO 898-2



Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Stainless steel A2-70 / AISI 304	ZE	corrosive atmosphere -200° C +400° C ⁽¹⁾

Others: Brass - Bronze - Light alloy - Titanium...

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	SRF	100150	QV	ZL	00
wording	SRF	M10 X 1,50	8	White Lanthane®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



HHS HUS HMS

NUT HFR TYPE

STARNUTS

May 2012

Definition: All metals self-locking hexagon nut

Locking by deformation of the last threads given by recessions
at the top of the nut standard to the NF EN ISO 7719 (NFE 2541)

Threading: Standard to ISO 965-2

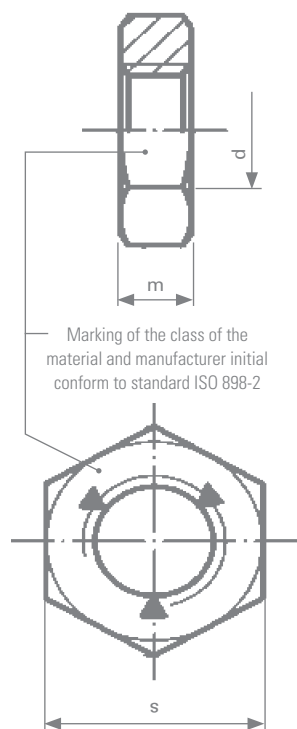
Dimensions: All forms allowed Hh H Hm: ISO 4033 Symbol Hh (high)
ISO 4032 Symbol H (regular)
ISO 4035 Symbol Hm (low)



d	pitch	s	m HMS		m HUS		m HHS	
			min.	max.	min.	max.	min.	max.
M 3	0,50	5,50	1,55	1,80	2,15	2,40	-	-
M 4	0,70	7,00	1,95	2,20	2,90	3,20	-	-
M 5	0,80	8,00	2,45	2,70	4,40	4,70	4,80	5,10
M 6	1,00	10,00	2,90	3,20	4,90	5,20	5,40	5,70
M 8	1,25	13,00	3,70	4,00	6,44	6,80	7,14	7,50
M 10	1,50	16,00	4,70	5,00	8,04	8,40	8,94	9,30
M 12	1,75	18,00	5,70	6,00	10,37	10,80	11,57	12,00
M 14	2,00	21,00	6,45	7,00	12,10	12,80	13,40	14,10
M 16	2,00	24,00	7,42	8,00	14,10	14,80	15,70	16,40
M 18	2,50	27,00	8,42	9,00	15,10	15,80	16,90	17,60
M 20	2,50	30,00	9,10	10,00	16,90	18,00	19,00	20,30
M 22	2,50	34,00	9,90	11,00	18,10	19,40	20,50	21,80
M 24	3,00	36,00	10,90	12,00	20,20	21,50	22,60	23,90
M 27	3,00	41,00	12,40	13,50	22,50	23,80	25,40	26,70
M 30	3,50	46,00	13,90	15,00	24,30	25,60	27,30	28,60
M 33	3,50	50,00	15,40	16,50	27,40	28,70	30,90	32,50
M 36	4,00	55,00	16,90	18,00	29,40	31,00	33,10	34,70

Quality class	Classification	Range of application
Class 8 steel / grade 5	QV	self color -50° C +300° C ⁽¹⁾
Class 10 steel / grade 8	QK	
Stainless steel A2-70 / AISI 304	ZE	corrosive atmosphere -200° C +400° C ⁽¹⁾
Stainless steel A4-70 / AISI 316L	ZK	
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication



Surface treatment (standard to ROHS requirements)			
Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel) :	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	HUS	100150	QV	ZL	00
welding	HUS	M10 X 1,50	8	White Lanthane®	*

*Standard size

On request: other materials, plating, sizes, imperial thread

MODULAR FIXTURES

STAINLESS STEEL CHANNEL

May 2012

Threading: Standard to NF ISO 262 / NF ISO 965-2

Characteristic and performance tests: NF EN ISO 2320 / NF EN ISO 3506-2

Material: - Stainless steel A2-70
- Steel grade 5 / class 8.8

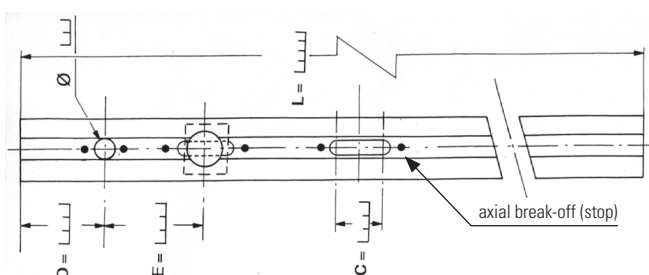
Surface treatment: Stainless steel - Antigalling : - Stanal ® 400 (Standard to ROHS requirements)
- Sherardisation



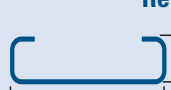

- Passivation

Steel

- All treatments (Standard to ROHS requirements)

Field of application: Contact us



Ref. 201144  Material : AISI 304 Z6 CN 1809	M3 to M5	M3 to M5 deflections	M3 to M5	M3 to M6
Ref. 203010  Material : AISI 304L Z2 CN 1810	M3 to M8	M3 to M8 deflections	M3 to M8	M3 to M8
Ref. 203326  Material : AISI 304L Z2 CN 1810	M6 to M12	M6 to M12 deflections	M6 to M10	M8 to M12
Ref. 203048  Material : AISI 304L Z2 CN 1810	M6 to M10	M6 to M10 deflections	M6 to M8	M6 to M12



Ease of use:

- From 25 mm to 6 meters long;
- Unlimited quantity of nuts and/or screws can be positioned within the channel;
- Range of diameter for nuts and / or screws;
- Range of type of nuts and/or screws (possible combination);
- Equidistance between products;
- Internal technical setup (oval holes, lights, spring mounts, prepunched rivet holes);
- Channels may be manufactured straight, bent and/or curved.

For special applications and inserts, please do not hesitate to **contact us**



MODULAR FIXTURES

LIGHT ALLOY CHANNEL

May 2012

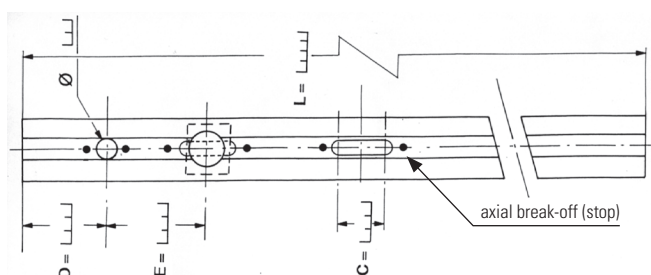
Threading: Standard to NF ISO 262 / NF ISO 965-2

Characteristic and performance tests: NF EN ISO 2320

Material: - Steel grade 5/class 8
- Brass, Aluminium

Surface treatment: All treatments (Standards to ROHS requirements)

Field of application: Contact us



Ref. 101000 Material : AISI 6060 A GS T5	M3 to M5	M3 to M5 deflections	M3 to M5	M3 to M6
Ref. 403010 Material : AISI 1050 A A5	M3 to M8	M3 to M8 deflections	M3 to M8	M3 to M8
Ref. 403048 Material : AISI 1050 A A5	M6 to M10	M6 to M10 deflections	M6 to M10	M6 to M12
Ref. 501000 Material : AISI 6060 A GS T5	M6 to M10	M6 to M10 deflections	M6 to M10	M6 to M12



Ease of use:

- From 25 mm to 6 meters long
- Unlimited quantity of nuts and / or screws can be positioned within the channel
- Range of diameter for nuts and / or screws
- Range of type of nuts and / or screws (possible combination)
- Equidistance between products
- Internal technical setup (oval holes, lights, spring mounts, prepunched rivet holes)

For special applications and inserts, please do not hesitate to **contact us**

CLANFIX

NUT HFR TYPE

STEEL / STAINLESS STEEL

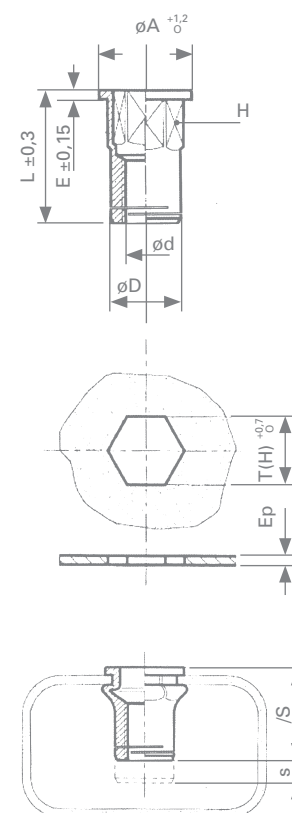
May 2012

Definition: Blind rivet self-lock nut

Threading: Standard to NF ISO 262 and ISO 965-2

Characteristic and performance test: Standard to NF EN ISO 2320 (Steel)
Standard to NF EN ISO 3506-2 (Stainless steel)

d	sheet thickness (Ep)	T	T(H)	diameter (A)	diameter (D)	L	E
M 4 x 0,70	1,0 -> 2,5	7,00	7,00	9,00	7,00	16,20	1,00
M 5 x 0,80	1,5 -> 3,0	9,00	9,00	11,00	9,00	20,40	1,20
M 6 x 1,00	1,5 -> 3,5	11,00	11,00	14,00	11,00	23,40	1,50
M 8 x 1,25	2,0 -> 4,0	13,00	13,00	16,00	13,00	28,80	1,50
M 10 x 1,50	2,5 -> 4,5	16,00	16,00	20,00	16,00	32,20	1,70
M 12 x 1,75	3,0 -> 5,0	18,00	18,00	23,00	18,00	37,30	2,00



Quality class	Classification	Range of application
Steel	QJ	self color -50° C +300° C ⁽¹⁾
Stainless steel A2-70 / AISI 304	ZE	-200° C +400° C ⁽¹⁾ Corrosive atmosphere
Stainless steel A4-80 / AISI 316L	ZH	

⁽¹⁾ Values given are only an indication

Surface treatment (standard to ROHS requirements)

Electrolytic coating (steel):	Yellow	ZJ	(ISO 4042)
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h
Zinc lamellar (steel):	600 h to 1000 h salt spray		on request
Antigalling (stainless steel):	Stanal ® 400 (NF E 25035)	ST	
	Sherardisation (NF EN 13811)	SH	
	Self Color	BT	

Example of ordering code

	Type	Diam X pitch	Class	Protection	
classification	CLANFIX	100150	ZH	ST	00
wording	CLANFIX	M10 X 1,50	Stainless steel 316L	Stanal ®	*

*Standard size

On request: other materials, plating, sizes, imperial thread



SPR

NUT HFR TYPE

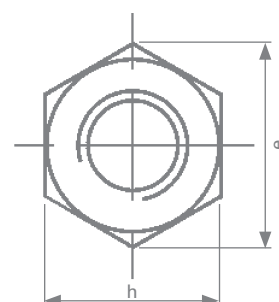
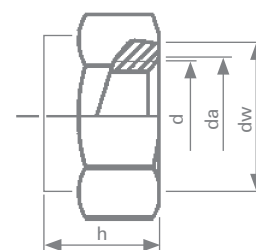
SPRING STOP NUT

May 2012

Definition: All metals self-locking nut with metallic insert

Threading: Standard to ISO 965-2

d	pitch	da	dw - min.	h	s	E - min.
M 3	0,50	3,00 – 3,45	4,80	2,70 – 3,30	5,32 – 5,50	6,01
M 4	0,70	4,00 – 4,60	5,90	3,50 – 4,10	6,78 – 7,00	7,66
M 5	0,80	5,00 – 5,75	6,90	4,30 – 4,90	7,78 – 8,00	8,79
M 6	1,00	6,00 – 6,75	8,90	4,60 – 5,40	9,78 – 10,00	11,05
M 8	1,25	8,00 – 8,75	11,60	6,90 – 7,70	12,73 – 13,00	14,38
M 10	1,50	10,00 – 10,80	15,60	7,90 – 8,70	16,73 – 17,00	18,90
M 12	1,75	12,00 – 13,00	17,40	10,10 – 10,90	18,67 – 19,00	21,10
M 14	2,00	14,00 – 15,10	20,50	12,00 – 13,00	21,67 – 22,00	24,49
M 16	2,00	16,00 – 17,30	22,50	14,00 – 15,00	23,67 – 24,00	26,75
M 18	2,50	18,00 – 19,50	24,90	15,50 – 16,50	26,16 – 27,00	29,56
M 20	2,50	20,00 – 21,50	27,70	17,00 – 18,00	29,16 – 30,00	32,95



Quality class	Classification	Range of application
Steel	QF	

Surface treatment (standard to ROHS requirements)

Electrolytic coating (steel):	Yellow (ISO 4042)	ZJ	96 h
	White Lanthane ® Finish	ZL	400 h
	White Lanthane ® Finish + top coat	ZF	600 h

Example of ordering code

	Type	Diam X Pitch	Class	Protection	
classification	SPR	100150	QF	ZL	00
wording	SPR	M10 X 150	Steel	White Lanthane®	*

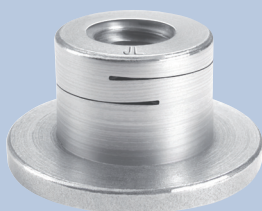
*Standard size

On request : other materials, plating, sizes, imperial thread



SPECIAL PRODUCTS

May 2012



SELF-LOCKING BUSHING NUT



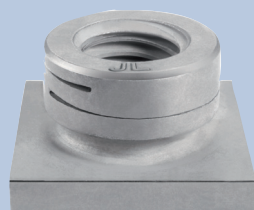
CONICAL SELF-LOCKING NUT
BY HEXAGONAL
DEFORMATION



TURRET SELF-LOCKING NUT
WITH SINGLE SLOT



SLOTTED ROUND NUT



SELF-LOCKING CHANNEL NUT
DOUBLE SLOTTED



SELF-LOCKING ACORN NUT
BY AXIAL DEFORMATION



SQUARE SELF-LOCKING NUT



SELF-LOCKING ACORN NUT
WITH NYLON INSERT



NYLON INSERT CLINCH NUT



ACORN NUT WITH DISC
SPRING WASHER

On request : other materials, plating, sizes, imperial thread

SPECIAL PRODUCTS

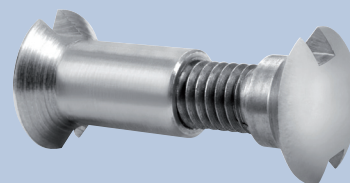
May 2012



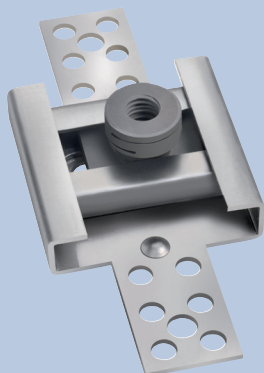
SELF-LOCKING
STUD



CAPTIVE
SCREW



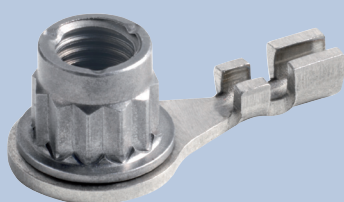
SEX BOLTS



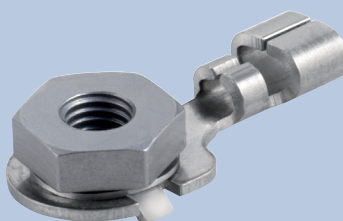
MULTI DIRECTIONAL INSERT



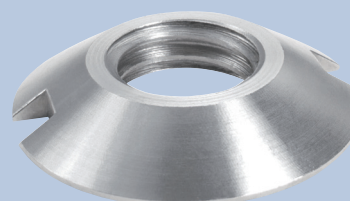
TWELVE POINTS FLANGE HEAD
SCREW SPECIAL WASHER



SELF-LOCKING NUT
TWELVE POINTS FLANGE NUT



SPECIAL NUT
FOR ELECTRICAL CONNECTION



TAMPER PROOF NUT

On request : other materials, plating, sizes, imperial thread