

CATIA Catalogs

Updates on screws, materials,
pins, and UHV components



CATIA Catalogs

1. ISO 4014 screws modifications
2. Material updates
3. New Pin Families (ISO 2338)
4. Groups of bolts & nuts for UHV flanges

1. ISO 4014 screws modifications

- ✓ Providers give wrong information
- ✓ Many people ignore this
- ✓ Risk of integration troubles
- ✓ Avoid wasting time during interventions
- ✓ Only M10 and M12 concerned

1. ISO 4014 screws modifications

✓ Provides information vs ISO official doc:

Article Details

DIN 931 Norme abrogée | ISO 4014 | 8.8

BN 55
Vis à tête hexagonale
partiellement filetés
Acier 8.8
noir
• -UNI 5737
• -CSN 021101

Article-No. - 1043994

d1	M10
L	40
b	26
e	13,9
k	6,4
s	17

Bossard Shop
M10: s=17
M12: s=19

Table 1 — Preferred threads

Thread (d)	M10	M12
p^a	1,5	1,75
b	26	30
b ref. c	32	36
d	45	49
c max.	0,60	0,60
min.	0,15	0,15
d_a max.	11,2	13,7
d_s nom. = max.	10,00	12,00
Product grade A min.	9,78	11,73
B	9,64	11,57
d_w Product grade A min.	14,63	16,63
B	14,47	16,47
e Product grade A min.	17,77	20,03
B	17,59	19,85
l_f max.	2	3
nom.	6,4	7,5
Product grade A max.	6,58	7,68
min.	6,22	7,32
Product grade B max.	6,69	7,79
min.	6,11	7,21
k_w^b Product grade A min.	4,35	5,12
B	4,28	5,05
r min.	0,4	0,5
nom. = max.	16,00	18,00
s Product grade A min.	15,73	17,73
B	15,57	17,57

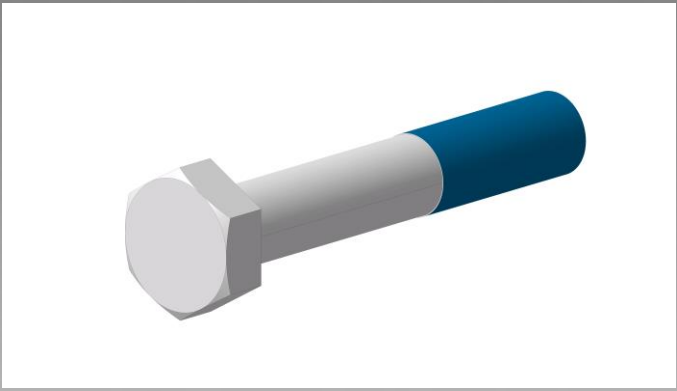
ISO 4014 official doc
M10: s=16
M12: s=18

1. ISO 4014 screws modifications

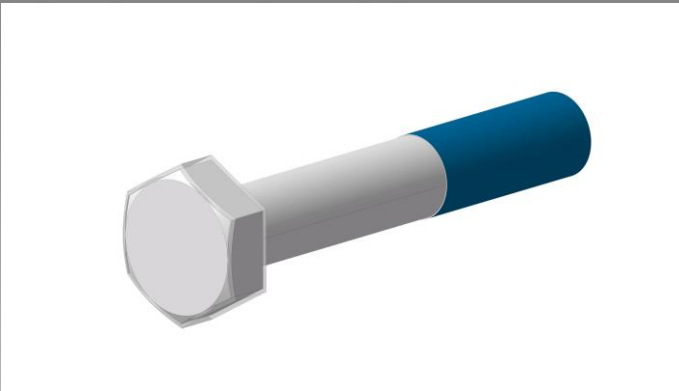
- ✓ Truth: M10 and M12 have head sizes of DIN 931 norm.
- ✓ Toolings are made for DIN 931: wrench of 17 and 19 common, 16 and 18 special and rare.
- ✓ Most providers have DIN sizes but promote as ISO.
- ✓ DIN is bigger, so risk of collision in tight environment.
- ✓ Decision: highlight the risk + put the biggest head in 3D
- ✓ Modifications made with CAD support (Marta GC)

1. ISO 4014 screws modifications

- ✓ Result: 2nd body for extra material of biggest head



Avant (M10x40)



Après (M10x40)

1. ISO 4014 screws modifications

- ✓ 2 families are concerned: ISO 4014 (partially threaded) + ISO 4017 (totally threaded).
- ✓ Only ISO 4014 is updated. We're waiting for your feed-back before extending it to ISO 4017.
- ✓ In case you need to specify a DIN screw, you can create it and send a request «add to catalog». Please specify provider + reference.
- ✓ If no special need, use the ISO 4014, just take care for inherent space reservation.

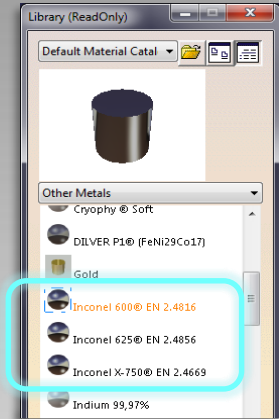
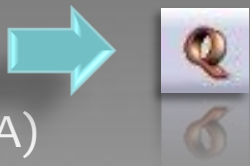
2. Material Updates

- ✓ Reminder: Stainless Steels names have changed in 2014
- ✓ Inconel names have changed in 2015
- ✓ Problem: catalog elements previously created need to be updated

**ALL EXISTING FAMILIES OF ROUGH MATERIALS
+ VACUUM COMPONENTS ARE DONE**

2. Material Updates

- ✓ Inconel names have changed
- ✓ You can find them now in «Other Metals» family
- ✓ Q-Checker configured (M GARCIA)
- ✓ Reminder: [FAQ to apply material](#)
- ✓ No need to update existing parts. Do it if modifications required.



2. Material Updates

- ✓ Update of Stainless Steel existing families
- ✓ 43 families concerned, 500 elements
- ✓ Vacuum components for which material specification is critical



!!! SEND A MAIL IF YOU FIND ERRORS !!!

3. New PIN Families (ISO 2338)

- ✓ 5 new families created with CAD Support (M GARCIA):

1. ISO 2338 - St. Steel A1 h8
2. ISO 2338 - St. Steel A2 m6
3. ISO 2338 - St. Steel A4 m6
4. ISO 2338 - Steel h8
5. ISO 2338 - Steel m6



- ✓ Elements according to providers:
EDH + Bossard + Emile Maurin

3. New PIN Families (ISO 2338)

How does it look like in title block:

1	IMMOBILE SPHERICAL SUPPORT	10	EN 1.4307	LHCMMHBB0665	
			(St. Steel 304L)	ST0703543	
2	Parallel pin unhardened 6x20	9	St. Steel A4	ISO 2338_6x20-A4-m6	No SCEM
	Goupille paral non dur_6x20				
2	PUSH SCREW SUPPORT	8	EN 1.4301	LHCMMHBB0664	
			(St. Steel 304)	ST0703207	

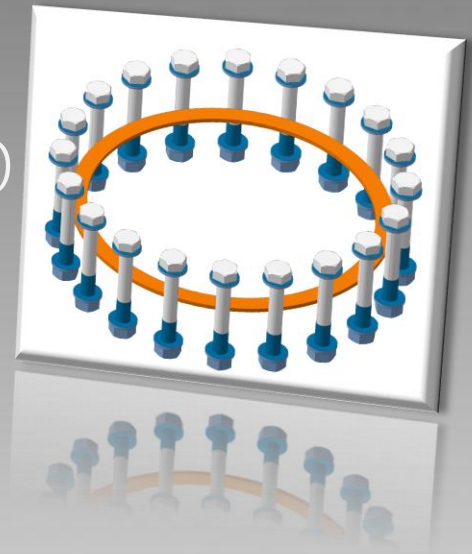
F. Cottenot
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Old families kept for special adjustment

In that case, just specify the adjustment in your assembly drawing

4. Sets of Bolts & Nuts for UHV Flanges

- ✓ Creation of set of bolts & nuts to insert in your own assembly
- ✓ Goal: Save time and improve part list
- ✓ User suggestions (G VILLIGER)
- ✓ Created by user (P.F MARCILLAC)
- ✓ Methodology checked with CAD Support (M GARCIA)



PROMOTE TO YOUR COLLEAGUES

4. Sets of Bolts & Nuts for UHV Flanges

- ✓ Process to follow
- ✓ Train yourself before you need
- ✓ FAQ is coming soon
- ✓ Video available in EDMS

VIDEO EDMS 1541884

CATIA Catalogs

Thanks

with help of:

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