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Power and Data White Paper

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Topic: Cage Nuts

Data Cabinet Cage Nuts have become somewhat convoluted. This is due to - 1) Number of thread options and the 2) Choice between types of cage nuts.

1) Both Metric and English standards for the threads of a cage nut are now encountered. The most common threads used for data applications are English (10-32, 12-24) and Metric (M5, M6).

HP® and Dell® among others have used different OEM (original equipment manufacturers) over the years resulting in different standards. Metric cage nuts become the standard when a European manufacturer (like Rittal®) is used; whereas if a typical USA manufacturer is the supplier then the English standard is used.

Are the Metric and English screws interoperable? The following table illustrates:

	Cage Nut				
		10-32	12-24	M5	M6
Screw	10-32	Perfect	Loose	Loose	No grip
	12-24	Won't Fit	Perfect	Won't Fit	Very Loose
	M5	Strips Thread	Won't Fit	Perfect	No Grip
	M6	Won't Fit	Won't Fit	Won't Fit	Perfect

Table Key:

Perfect	Matching thread on screw and nut.
Won't Fit	The screw cannot be forced into the nut.
Strips Thread	The screw can be forced into the nut but the thread is stripped.
Loose	The screw enters the nut but can be wiggled.
Very Loose	The screw enters the nut but has very limited grip.
No Grip	The screw enters the nut but has no grip at all.

2) There are two types of cage nuts used in data cabinet environments - Slide-On and Snap-In. Slide-On is used primarily when the provided vertical rails are drilled but not tapped. Slide-On cage nuts are beneficial for square punched rails because of the ease of moving the mounting hardware. However, with this approach there is extra play as

the Slide-On cage nut is not locked and in a dense installation it will become problematic.

Snap-In cage nuts are used exclusively for rails that are punched with mounting squares. All conventional data cabinet rails are punched with the same size square so you can snap in any size thread.

Choice of thread is theatrically related to the weight of equipment - 10-32 being the thinnest and M6 the thickest. However shorn screws due to the weight of the mounted equipment is a rarity. It is wise to stay with one thread for the cabinet or you will be fumbling with a host of screws in the future.

Due to the very limited interoperability of screws and cage nuts we stock all thread types and in 50, 100, 500 packs:

Item#	Description
9306	Rack Cage Nut Slide On/100 10-32
6121	Rack Cage Nut Slide On/100 12-24
3392	Rack Cage Nut Slide On/100 M5
2260	Rack Cage Nut Slide On/100 M6
1785	Rack Cage Nut Slide On/50 10-32
9518	Rack Cage Nut Slide On/50 12-24
9519	Rack Cage Nut Slide On/50 M5
9019	Rack Cage Nut Slide On/50 M6
9299	Rack Cage Nut Slide On/500 10-32
3390	Rack Cage Nut Slide On/500 12-24
3393	Rack Cage Nut Slide On/500 M5
2261	Rack Cage Nut Slide On/500 M6
9305	Rack Cage Nut Snap In/100 10-32
9521	Rack Cage Nut Snap In/100 12-24
7122	Rack Cage Nut Snap In/100 M5
9105	Rack Cage Nut Snap In/100 M6
1773	Rack Cage Nut Snap In/50 10-32
1020	Rack Cage Nut Snap In/50 12-24
9018	Rack Cage Nut Snap In/50 M5
1941	Rack Cage Nut Snap In/50 M6
9300	Rack Cage Nut Snap In/500 10-32
9995	Rack Cage Nut Snap In/500 12-24
8569	Rack Cage Nut Snap In/500 M5
9153	Rack Cage Nut Snap In/500 M6

We also provide various length screws in different finishes to make your equipment both secure and aesthetic.

4163	Screw 10-32 1" 100 Steel Black
4968	Screw 10-32 1" 100 Steel Zinc
3298	Screw 10-32 1" 50 Steel Black
3294	Screw 10-32 1" 50 Steel Zinc
2444	Screw 10-32 1" 500 Steel Black
2445	Screw 10-32 1" 500 Steel Zinc
6305	Screw 10-32 1/2" 100 Steel Black
2442	Screw 10-32 1/2" 100 Steel Zinc
3296	Screw 10-32 1/2" 50 Steel Black
3295	Screw 10-32 1/2" 50 Steel Zinc
2937	Screw 10-32 1/2" 500 Steel Black
2441	Screw 10-32 1/2" 500 Steel Zinc
3303	Screw 10-32 3/4" 100 Steel Black
2440	Screw 10-32 3/4" 100 Steel Zinc
3297	Screw 10-32 3/4" 50 Steel Black
3669	Screw 10-32 3/4" 50 Steel Zinc
3304	Screw 10-32 3/4" 500 Steel Black
2439	Screw 10-32 3/4" 500 Steel Zinc
8197	Screw 12-24 3/4" 100 Steel Black
2437	Screw 12-24 3/4" 100 Steel Zinc
3300	Screw 12-24 3/4" 50 Steel Black
3299	Screw 12-24 3/4" 50 Steel Zinc
7981	Screw 12-24 3/4" 500 Steel Black
2436	Screw 12-24 3/4" 500 Steel Zinc
7979	Screw M6 3/4" 100 Steel Black
2431	Screw M6 3/4" 100 Steel Zinc
3302	Screw M6 3/4" 50 Steel Black
3301	Screw M6 3/4" 50 Steel Zinc
9571	Screw M6 3/4" 500 Steel Black
2432	Screw M6 3/4" 500 Steel Zinc
5124	Screw M5 3/4" 100 Steel Black
2435	Screw M5 3/4" 100 Steel Zinc
3090	Screw M5 3/4" 50 Steel Black
6076	Screw M5 3/4" 50 Steel Zinc
6141	Screw M5 3/4" 500 Steel Black
2434	Screw M5 3/4" 500 Steel Zinc

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