

THERMOPLASTIC/PA6G

Strong connections for thermoplastics using of PA6G example



Secure hold. Ideal for:

- Aircraft construction
- Transport technology
- Construction engineering
- Machinery

RAMPA®-Inserts Type: SKD330



- Wide range of applications
- Automatic alignment by 3 support points
- Guaranteed straight assembling
- Hub for simplified assembling
- Up to 2.5 times faster than conventional inserts
- Maximum load capacity utilization of the assembling area
- Patented 3-start thread contour

RAMPA®-Inserts Type: SKD30



- Wide range of applications
- Hub for simplified assembling
- High load capacity utilization of the assembling area
- Patented 1-start thread contour

RAMPA®-Inserts Type: ES

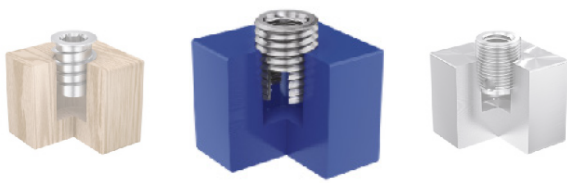


- For materials with high strength/density
- Also for thin-walled applications
- Conical hub
- Cutting slot
- Wide variety of materials, including in stainless steel

RAMPA®-Inserts Type: BAN/BAV



- For materials with high strength/density
- Also for thin-walled applications
- Conical hub
- Cutting holes
- Wide variety of materials, including in stainless steel

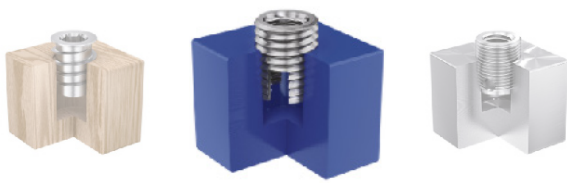


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Strong connections for thermoplastics using of PA6G example

	SKD330	SKD30	ES	BAN/BAV
High processing speed	++	+	-	-
Separate drive for assembling	++	++	-	-
Supports vertical assembling	++	+	0	0
Disassembly possible	+	+	-	-
Stainless steel in standard assortment	0	0	+	+
Patented	✓	✓	0	0
Material compaction through displacement	++	+	0	0
Low tension assembling	-	-	++	++
For thin-walled components	0	0	++	++
Chipless mounting	+	+	-	-
Stock goods	++	++	++	++
Fully automated assembling	++	++	+	+

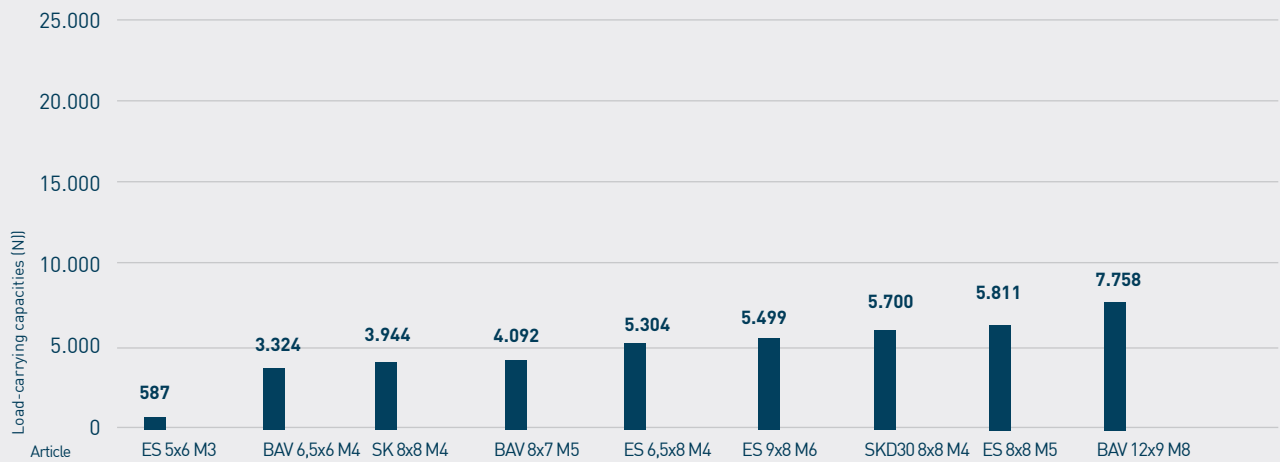
Legend: ++ Very strong, + Strong, - Weak, 0 Not present



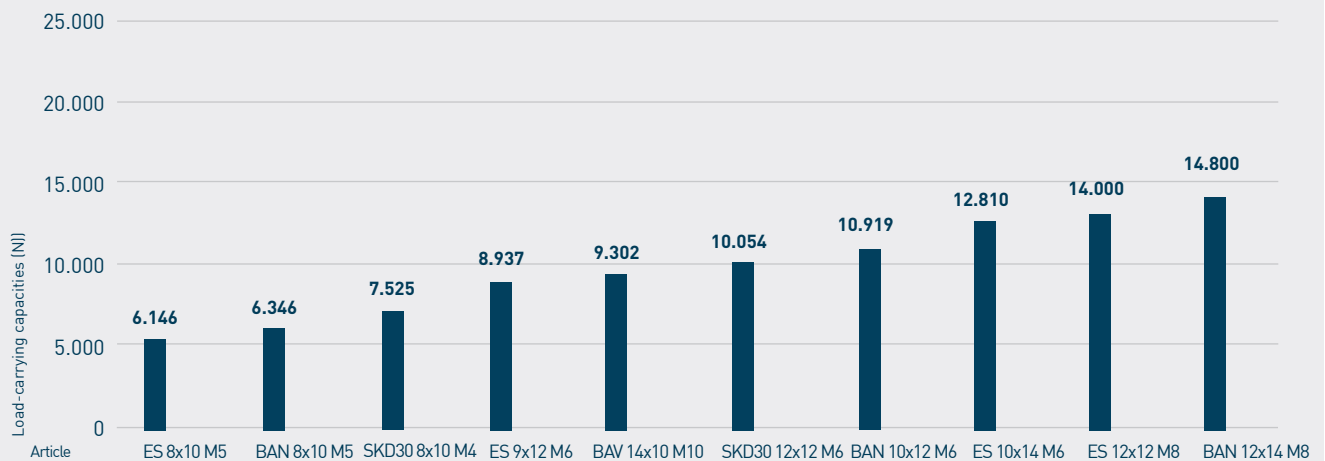
THERMOPLASTIC/PA6G

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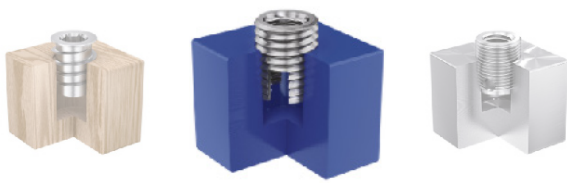
Load-carrying capacities material thickness 10mm



Load-carrying capacities material thickness 15mm



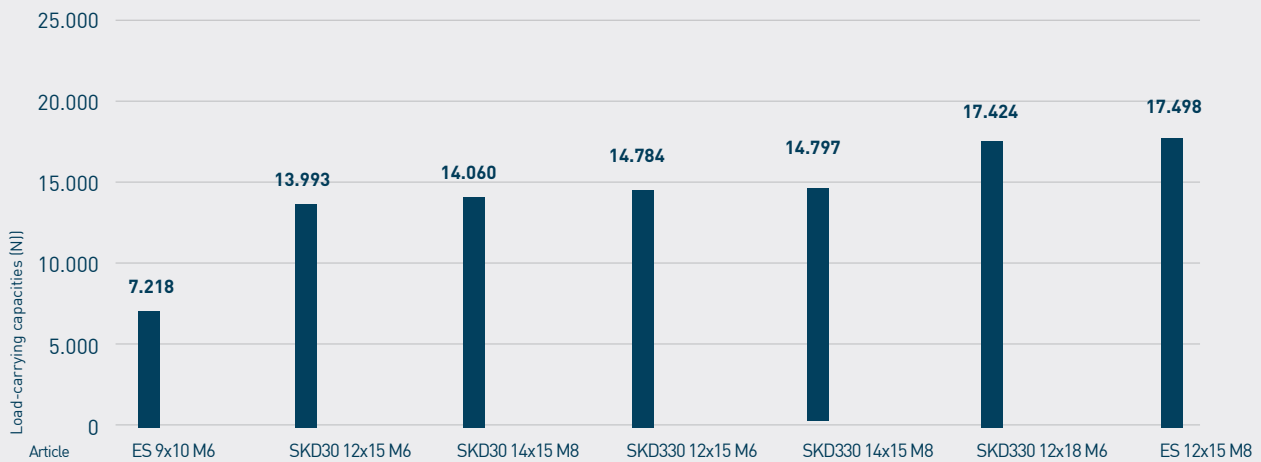
* The reference load-carrying capacities mentioned before might vary in individual cases due to different mechanical properties depending on the material used.



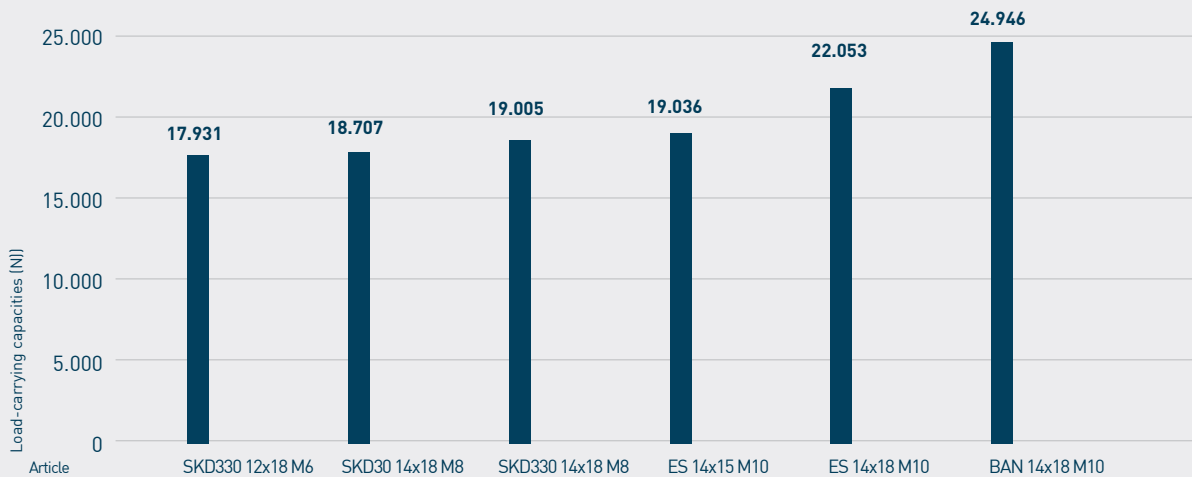
THERMOPLASTIC/PA6G

Strong connections for thermoplastics using of PA6G example

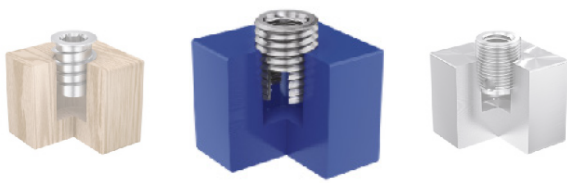
Load-carrying capacities material thickness 20mm



Load-carrying capacities material thickness 20mm



* The reference load-carrying capacities mentioned before might vary in individual cases due to different mechanical properties depending on the material used.



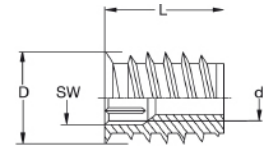
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THERMOPLASTIC/PA66

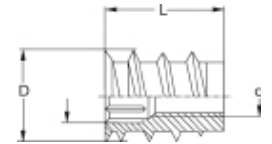
The suitable inserts for thermoplastics / PA66

RAMPA®-Inserts | Type: SKD330

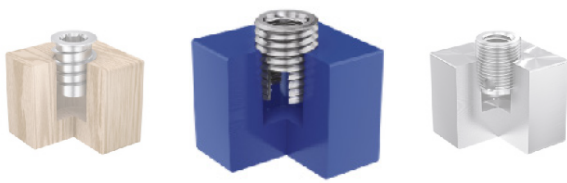


Art. No.	Outer-Ø D (mm)	Length L (mm)	Threadsize d (mm)	Hex Drive	Pre-Drill Ø (mm)	steel zinc-plated
420615001	12	15	M6	6	10,0 - 10,5	✓
420618001	12	18	M6	6	10,0 - 10,5	✓
420855001	14	15	M8	8	12,0 - 12,5	✓
420858001	14	18	M8	8	12,0 - 12,5	✓
420814001	16	14	M8	8	14	✓
420818001	16	18	M8	8	14	✓
420823001	16	23	M8	8	14	✓
420120001	18,5	20	M10	10	16,5	✓
420125001	18,5	25	M10	10	16,5	✓

RAMPA®-Inserts | Type: SKD30



Art. No.	Outer-Ø D (mm)	Length L (mm)	Threadsize d (mm)	Hex Drive	Pre-Drill Ø (mm)	steel zinc-plated
439408001	8	8	M4	4	7,0	✓
439410001	8	10	M4	4	7,0	✓
439412001	8	12	M4	4	7,0	✓
439512001	10	12	M5	5	9,0	✓
439612001	12	12	M6	6	10,0 - 10,5	✓
439615001	12	15	M6	6	10,0 - 10,5	✓
439618001	12	18	M6	6	10,0 - 10,5	✓
439855001	14	15	M8	8	12,0 - 12,5	✓
439858001	14	18	M8	8	12,0 - 12,5	✓



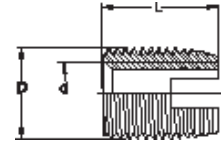
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THERMOPLASTIC/PA6G

The suitable inserts for thermoplastics / PA6G

RAMPA®-Inserts | Type: ES

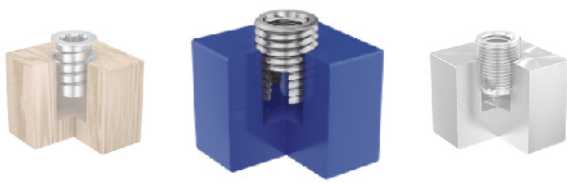


Art. No.	Outer-Ø D (mm)	Length L (mm)	Thread-size d (mm)	Steel yellow zinc-plated	Steel hardened yellow zinc-plated	Steel hardened blue zinc-plated	Brass plain*	Stainless steel* 1.4305	Stainless steel* 1.4571
009256__	4,5 x 0,5	6	M2,5		✓	✓			
009306__	5 x 0,5	6	M3	✓	✓	✓	✓	✓	
009308__	6 x 0,75	8	M3,5		✓	✓			
009408__	6,5 x 0,75	8	M4	✓	✓	✓	✓	✓	✓
009508__	8 x 1	8	M5	✓	✓	✓	✓		
009510__	8 x 1	10	M5	✓	✓	✓	✓	✓	✓
009608__	9 x 1	8	M6	✓	✓	✓	✓		
009610__	9 x 1	10	M6	✓	✓	✓	✓		
009612__	9 x 1	12	M6	✓	✓	✓	✓	✓	
009614__	10 x 1,5	14	M6	✓	✓	✓	✓	✓	✓
009812__	12 x 1,5	12	M8	✓	✓	✓	✓		
009815__	12 x 1,5	15	M8	✓	✓	✓	✓	✓	✓
009916__	14 x 1,5	15	M10	✓	✓	✓	✓		
009918__	14 x 1,5	18	M10	✓	✓	✓	✓	✓	✓
009926__	16 x 1,5	18	M10	✓	✓	✓			
009922__	16 x 1,5	22	M12	✓	✓	✓	✓	✓	✓
009924__	18 x 1,5	24	M14		✓			✓	
009952__	20 x 1,5	22	M16	✓	✓	✓		✓	✓
009207__	26 x 1,5	27	M20		✓	✓		✓	✓
009240__	30 x 1,5	30	M24		✓	✓			

↑ Please complete

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*1 We hereby inform you according to Article 33 - REACH, that this article contains the following substance identified as SVHC:
Lead (Pb); CAS: 7439-92-1 Date of Admission: 27.06.2018



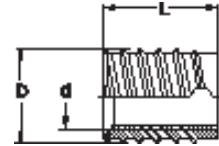
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THERMOPLASTIC/PA6G

The suitable inserts for thermoplastics / PA6G

RAMPA®-Inserts | Type: BAN/BAV

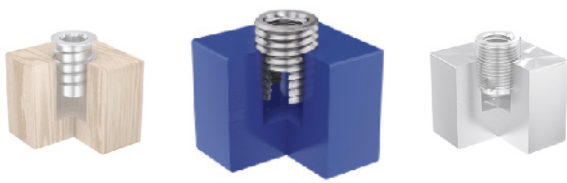


Art. No.	Type	Outer-Ø D (mm)	Length L (mm)	Threadsize d (mm)	Steel hardened yellow zinc plated	Steel hardened blue zinc plated*	Stainless steel* 1.4305	Stainless steel* 1.4571
013406__	BAV	6,5 x 0,8	6	M4	✓	✓	✓	✓
014408__	BAN	6,5 x 0,8	8	M4	✓	✓	✓	✓
013507__	BAV	8 x 1	7	M5	✓	✓	✓	✓
014510__	BAN	8 x 1	10	M5	✓	✓	✓	✓
013608__	BAV	10 x 1,25	8	M6	✓	✓	✓	✓
014612__	BAN	10 x 1,25	12	M6	✓	✓	✓	✓
013809__	BAV	12 x 1,5	9	M8	✓	✓	✓	✓
014814__	BAN	12 x 1,5	14	M8	✓	✓	✓	✓
013100__	BAV	14 x 1,5	10	M10	✓	✓	✓	✓
014108__	BAN	14 x 1,5	18	M10	✓	✓	✓	✓
013122__	BAV	16 x 1,75	12	M12	✓	✓		
014123__	BAN	16 x 1,75	22	M12	✓	✓		
013144__	BAV	18 x 2	14	M14	✓			

↑ Please complete

005	061	03	07
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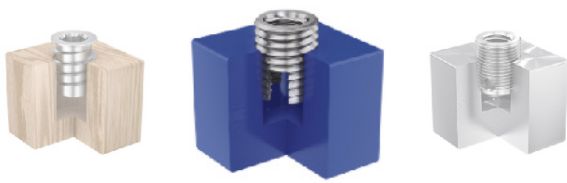
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THERMOPLASTIC/PA6G

The suitable inserts for thermoplastics / PA6G

Assembling instructions RAMPA®-Inserts | Type: SKD330, SKD30, ES, BAN/

Art. No.	Type	Outer-Ø D (mm)	Length L (mm)	Threadsize d (mm)	Pre-Drill Ø (mm)	Assembling torque (Nm)	Load-carrying capacities (N)
420615__	SKD330	12	15	M6	10,5	14,0	14784
420618__	SKD330	12	18	M6	10,5	15,0	17424
420855__	SKD330	14	15	M8	12,5	20,0	14797
420858__	SKD330	14	18	M8	12,5	25,0	19005
439408__	SKD30	8	8	M4	7,0	4,0	5700
439410__	SKD30	8	10	M4	7,0	5,0	7525
439612__	SKD30	12	12	M6	10,5	7,0	10054
439618__	SKD30	12	18	M6	10,5	10,5	17931
439855__	SKD30	14	15	M8	12,5	10,5	14060
439858__	SKD30	14	18	M8	12,5	13,5	18707
009614__	ES	10,0 x 1,5	14	M6	8,6	4,5	12810
009812__	ES	12,0 x 1,5	12	M8	10,8	7,5	14000
009815__	ES	12,0 x 1,5	15	M8	10,8	6,0	17498
009916__	ES	14,0 x 1,5	15	M10	12,6	10,0	19036
009918__	ES	14,0 x 1,5	18	M10	12,6	10,5	22053
009306__	ES	5,0 x 0,5	6	M3	4,6	0,5	587
009408__	ES	6,5 x 0,75	8	M4	5,8	1,3	5304
009510__	ES	8,0 x 1,0	10	M5	7,1	1,8	6146
009508__	ES	8,0 x 1,0	8	M5	7,1	1,7	5811
009612__	ES	9,0 x 1,0	12	M6	8,2	5,8	8937
009608__	ES	9,0 x 1,0	8	M6	8,2	3,1	5499



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Assembling instructions RAMPA®-Inserts | Type: SKD330, SKD30, ES, BAN/

Art. No.	Type	Outer-Ø D (mm)	Length L (mm)	Threadsize d (mm)	Pre-Drill Ø (mm)	Assembling torque (Nm)	Load-carrying capacities (N)
013809__	BAV	12,0 x 1,5	9	M8	11,1	4,8	7758
013100__	BAV	14,0 x 1,5	10	M10	13,1	6,0	9302
013406__	BAV	6,5 x 0,8	6	M4	6,0	1,5	3324
013507__	BAV	8,0 x 1,0	7	M5	7,4	1,5	4092
014612__	BAN	10,0 x 1,25	12	M6	9,3	3,8	10919
014814__	BAN	12,0 x 1,5	14	M8	11,1	9,0	14800
014108__	BAN	14,0 x 1,5	18	M10	13,1	13,0	24946
014510__	BAN	8,0 x 1,0	10	M5	7,4	2,4	6346

Recommended RAMPA® assembling tools:

Driver | Type 515
Hexagonal shank



Driver | Type 504
DIN 3126 E11.2
Hexagonal shank



Driver | Type 506
DIN 3126 E6.3
Hexagonal shank

