

**Selection guide for AMTEC® thread inserts**

Requirements Specifications	HITSERT® 2	HITSERT® 3	SONICSERT®	QUICKSERT® plus	QUICKSERT® QUICK-SERT® Hex self-tapping	QUICKSERT® type 1230 expansion	EXPANSION-SERT 1	EXPANSION-SERT 2	SPREDSERT® type 1/type 2 SPREDSERT® with retaining flange
<b>Suitability for different constr. materials</b>									
- Thermoplastics	++	++	++	++	+	+	0	exception	type 1/withret. flange+
- Thermosets	--	-	--	--	++	+	+	--	type 2/withret. flange+
- Foams	--	--	--	-	0	-	--	+	--
- Elastomers	--	--	--	-	0	--	--	+	--
Minimum installation effort (machine technology)	Thermal installation machine (min. quantities with soldering gun)	"soldering gun" screwdriver toggle press	ultrasonic welding machine	manual installation tool screwdriver	manual installation tool screwdriver	spindle lifting tool (possibly press)	manual installation mandrel	manual installation mandrel	manual installation mandrel
Recommended wall thicknesses (comparable quality: 1 = low, 4 = high)	1	1	2	2	3	4	4	4	3
Fitting values in equal thermoplastics	100 %	100 % for thermal installation and tapping insertion, 70 % for pressing-in	80 %	110 %	120 %	100 %	60 %	-	50 %
<b>Special requirements:</b>									
- Tightness	with O-ring (implemented)	yes	with O-ring (possible)	no	no	-	no	no	no
- Bolt thread	yes		yes	no	no	-	no	no	no
- Through hole	yes	yes	yes	no	no		no	no	no
<b>Others</b>	by taper (8°) - self-centring - low-tension	seal insert, variable installation		chipless embedding		also suitable for light metals	easy installation		cost-effective
<b>This catalogue, on page</b>	<b>6</b>	<b>8</b>	<b>11</b>	<b>19</b>	<b>23</b>	<b>24</b>	<b>30</b>	<b>32</b>	<b>33</b>

**!** **Remarks regarding "Fitting values in equal thermoplastics":**  
Indicated values relate to HITSERT® 2 in PA GF.

**-- unsuitable / - limited / 0 satisfactory / + good / ++ very good**



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**Selection guide for installation methods**

To meet the high general requirements to connection technology, fasteners and processing systems must be perfectly designed and match perfectly. That is why we, as a specialist in fastening and assembly technology, in the field of embedding thread inserts cooperate with KVT Bielefeld GmbH, Werkering 6, 33609 Bielefeld, Germany, phone + 49 (0)521-9320710, info@kvt-bielefeld.de, the welding specialist.

Installation methods	Possible sizes	Installation time	Materials	Size	Batch sizes	Installation accuracy			Special characteristics		
						< 0.05	+/- 0.1	≥ 0.2			
HEW – heat element welding	M 2 – M 8	approx. 3 – 4 seconds (for size M 4)	thermo-plastics, thermo-plastic elastomers	≤ M 3	< 50,000	--	++	++	<ul style="list-style-type: none"> <li>– low-tension</li> <li>– multiple installation possible</li> <li>– well suitable for threaded bolts</li> <li>– easily convertible to other thread insert dimensions</li> </ul>		
					~ 500,000	--	++	++			
					> 1 Mio.	--	++	++			
				M 4 – M 6	< 50,000	--	++	++			
					~ 500,000	--	++	++			
					> 1 Mio.	--	++	++			
	≥ M 8	< 50,000	--	+	+						
		~ 500,000	--	+	+						
		> 1 Mio.	--	+	+						
	ERW – electromagnetic resistance welding	M 1,4 – M 40	approx. 3 seconds (for size M 5)	thermo-plastics, thermo-plastic elastomers	≤ M 3	< 50,000	++	++		++	<ul style="list-style-type: none"> <li>– low-tension</li> <li>– multiple installation possible</li> <li>– especially for inserts &lt; M 2 as well as inserts with sealing rings</li> <li>– single-phase or two-phase process can be selected</li> </ul>
						~ 500,000	++	++		++	
						> 1 Mio.	++	++		++	
M 4 – M 6					< 50,000	++	++	++			
					~ 500,000	++	++	++			
					> 1 Mio.	++	++	++			
≥ M 8		< 50,000	++	++	++						
		~ 500,000	++	++	++						
		> 1 Mio.	++	++	++						
USW – ultrasonic welding		M 2 – M 6	approx. 3 seconds (for size M 5)	thermo-plastics,	≤ M 3	< 50,000	--	0	++	<ul style="list-style-type: none"> <li>– high noise emission upon installation of metal inserts</li> <li>– considerable abrasion upon installation of metal inserts</li> <li>– unsuitable for threaded bolts</li> <li>– easily convertible to other thread insert dimensions</li> </ul>	
						~ 500,000	--	0	++		
						> 1 Mio.	--	0	++		
	M 4 – M 6				< 50,000	--	0	++			
					~ 500,000	--	0	++			
					> 1 Mio.	--	0	++			
	≥ M 8	< 50,000	--	--	--						
		~ 500,000	--	--	--						
		> 1 Mio.	--	--	--						

**-- unsuitable / - limited / 0 satisfactory / + good / ++ very good**

All dimensions in mm.

**The versions – thread inserts for self-tapping insertion QUICKSERT® Hex**



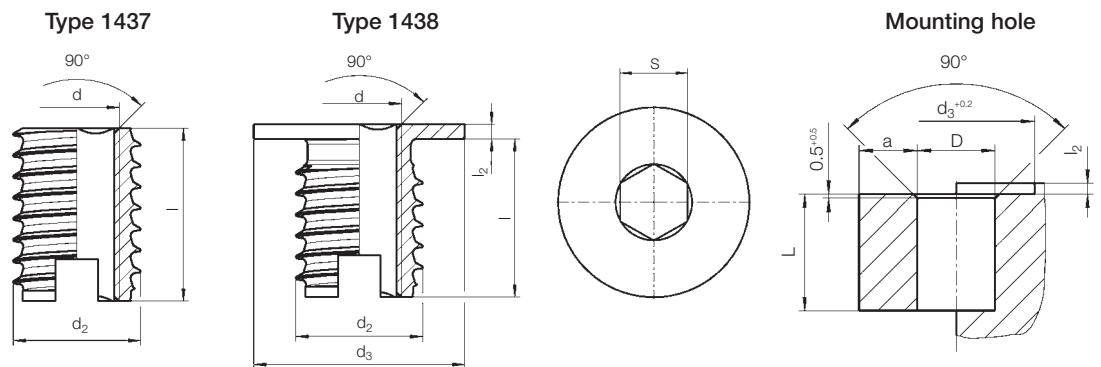
**The advantages**

- Efficient installation process resulting from additional driver shape (e.g. hexagonal shape)
- For thermoplastics and thermosets
- Extra small flank angles of the special external thread minimise radial tensions
- High-strength and torsion-proof threads
- Special version available with external left-hand thread for improved reverse locking

**Principle**

**QUICKSERT® Hex** consists of a cylindrical basic body with internal thread and additional internal hexagon and a special external thread. The profile of the external thread has an extremely small flank angle and expands asymmetrically towards the thread root. This way, installation at low driving torques is optimised. Very good tight-fit is achieved with an ideal distribution of load. The bottom part of the bush is provided with a cutting slot. For special requirements, we offer a version with flange. The threaded bush is inserted and screwed in with a rotating spindle. It is not necessary to screw out the spindle.

**Technical data**



d	Brass, standard Order No	Brass, flange Order No	l	l <sub>2</sub>	d <sub>2</sub>	d <sub>3</sub>	L <sub>min.</sub>	a <sub>min.</sub>	S
M 4	1437 504 0008	1438 504 0009	8.0	1.0	7.0	10.0	9.0	3.0	3.2
M 5	1437 505 0010	1438 505 0112	10.0	1.2	8.0	11.0	11.0	4.0	4.0
M 6	1437 506 0014	1438 506 0154	14.0	1.4	10.0	13.0	15.0	4.0	5.0
M 8	1437 508 0015	1438 508 0164	15.0	1.4	12.0	15.0	16.0	5.0	6.5

Minimum quantity on request. All dimensions in mm.

For recommended mounting holes -D- for **QUICKSERT® Hex** in different materials® see table on page 20!

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