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KAPTI® Limiter

Riveting compression limiters for plastic components



KAPTI® Limiter – Compression limiter

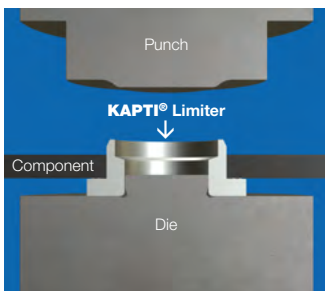


The KAPTI® Limiter is a threadless rivet sleeve that has been specially developed to protect plastic components from cracking and creeping under increased preload. It ensures a permanent form fit between the element and the carrier component, effectively absorbing and maintaining the preload force. The KAPTI® Limiter can be installed in various plastic components and offers the flexibility to use the same element geometry for different component thicknesses. This clearly sets it apart from conventional press-fit compression limiters and protects the component from damage.

Your advantages

- **Component protection:** Effectively protects against cracking in the component by absorbing the compressive stresses during screw fastening.
- **Preload force protection:** Prevents the plastic from creeping and thus secures the preload force permanently.
- **Flexibility:** One element for different component thicknesses enables flexible design.
- **Precision:** Enables precise spacing between components (see page 3, installation example on the right).
- **Two-sided:** The screw can be inserted on both sides, which makes installation easier.
- **Tightness:** The sealing lips ensure a media-tight connection.
- **Cost-effectiveness:** Press-integrated processing enables cost-efficient production.
- **Environmentally friendly:** Mechanical fastening without heat input preserves material integrity and is energy efficient.

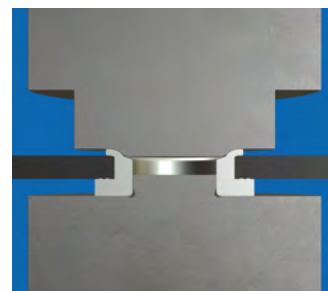
Joining process



The KAPTI® Limiter and the plastic component are positioned on the die of the riveting tool.



Closing the tool and placing the punch on the shaft end of the KAPTI® Limiter. Start of the forming process.



Flanging the end of the shaft to create a form-fit joint between the KAPTI® Limiter and the component. Forming the sealing lips into the plastic.



Retracting the stamp and removal of the composite from the KAPTI® Limiter and the component.



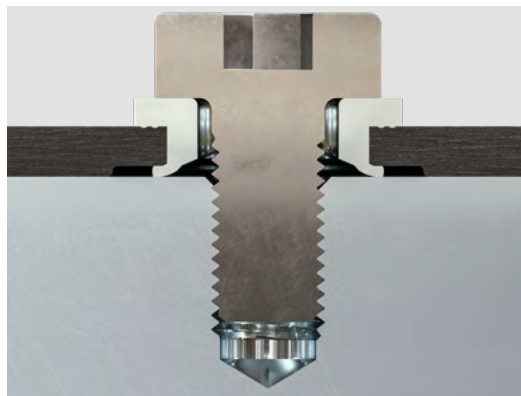
<https://www.boellhoff.com/video/kapti-limiter>

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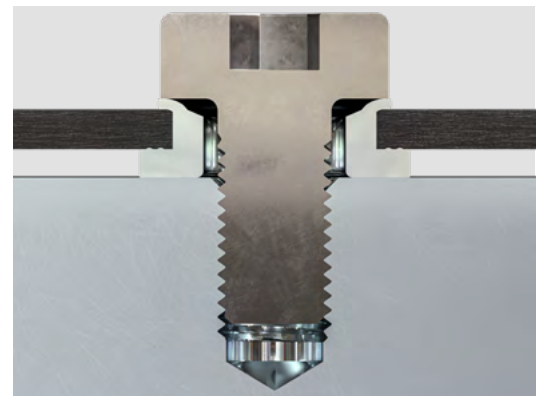


- **Forming section:** The principle of riveting enables a tolerance compensation regarding the component thickness – one element geometry for different component thicknesses.
- **Sealing lips (under head):** Creation of a media-tight joint between the KAPTI® Limiter and the plastic component.
- **Flange:** Contact surface between screw and KAPTI® Limiter. Absorption of compressive stresses with defined preload force (see installation example on the left). In the case of shaft-sided bolting, a defined distance between the plastic component and the partner component can be created via the thickness of the flange (spacer, see installation example on the right).

Installation examples

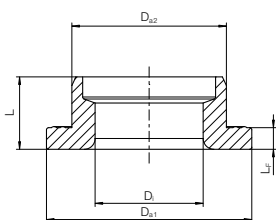


The plastic component and the feet of the KAPTI® Limiter lie flush on the partner component, whereby the preload force is absorbed via the element.



The reverse joining direction of the KAPTI® Limiter enables a defined gap between the plastic and partner component.

Characteristic values



Variant	L mm	L _F mm	D _i mm	D _{a1} mm	D _{a2} mm	Material thickness mm	Protection class*
Ø19 (suitable for M6, M8)	6.7	2	10.0	19	14.3	2.7 – 3.5	min. IPX7
Ø22 (suitable for M10)	6.7	2	14.2	22	18.0	2.7 – 3.5	min. IPX7

* The tightness between the KAPTI® Limiter and the carrier component (PA6.6 30GF) was checked by a three-hour test with a 1-meter water column.

The table shows characteristic values of two exemplary KAPTI® Limiter variants. Other performance characteristics, such as the maximum preload force at which defined creep of the plastic begins, can be recorded for specific applications. **Special versions on request.**



Passion for successful joining.

Böllhoff Group

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