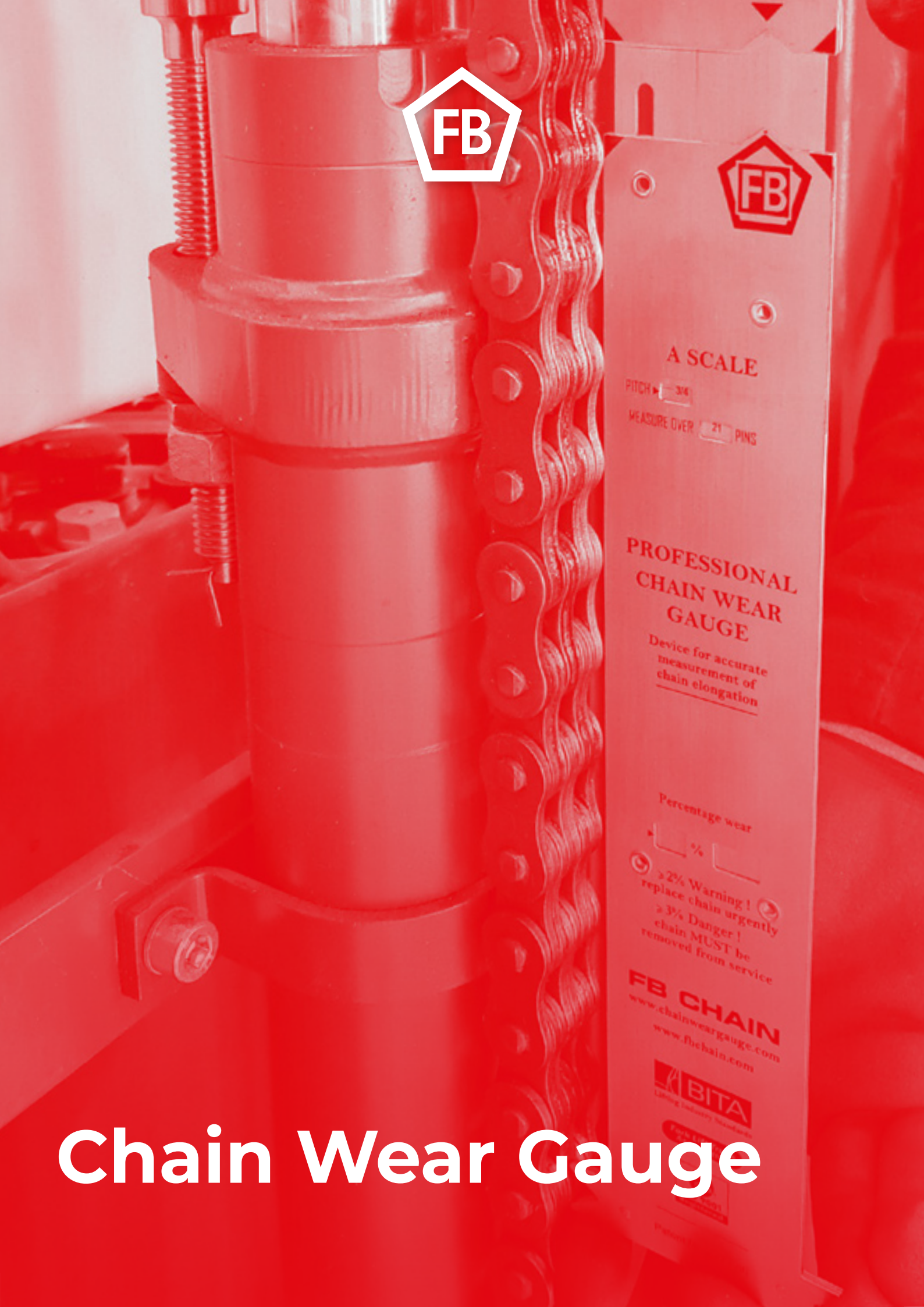


Chain Wear Gauge

Chain Wear Gauge

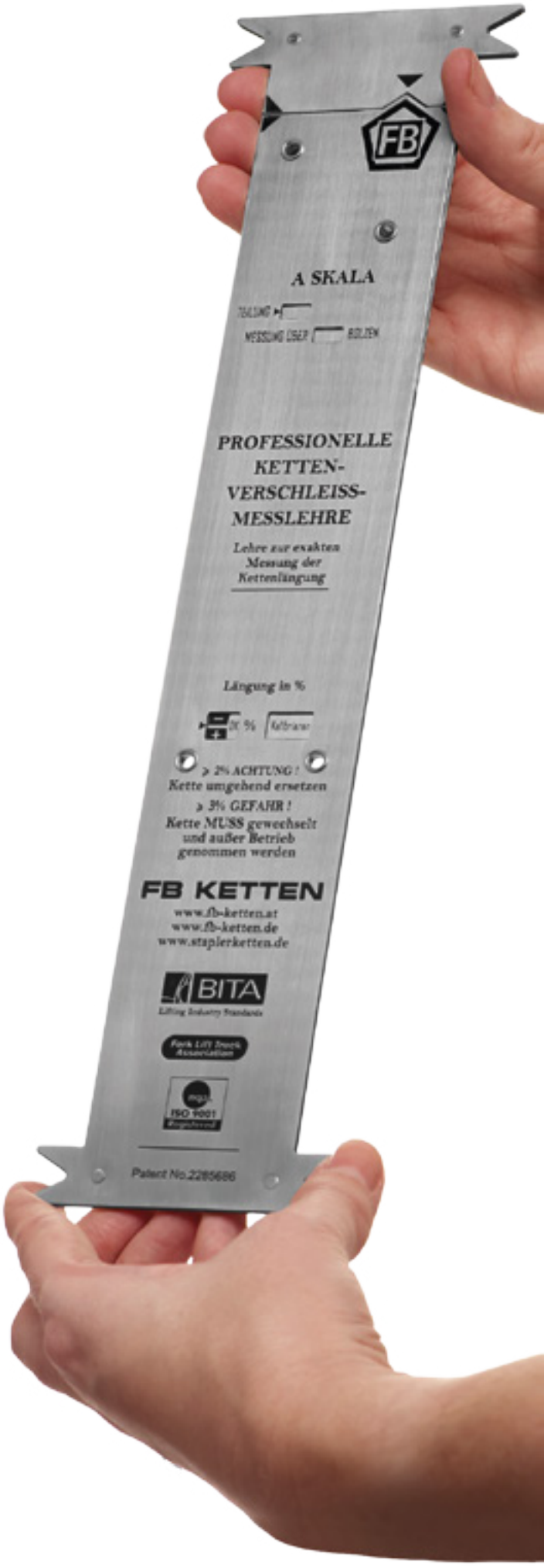
Leaf chain failure, unless it's the result of a sudden breakage due to operator error, shock load or overload, is normally a gradual process in which the leaf chain or roller chain elongates as it wears. The accumulative effect of leaf chain wear is a significant increase in the actual pitch of the leaf chain. The FB Chain Wear Gauge is a tool that accurately measures leaf chain and roller chain wear and indicates the percentage of elongation so you know when it's time to replace your leaf chain safely.

Why measure for wear?

Through our work on British Industrial Truck Association (BITA) technical and ISO standards committees we've always been aware of leaf chain safety and the implications of leaf chain wear. For many years we stocked a plastic chain wear gauge which we gave away as a free product to customers. However, it quickly became clear that this flimsy plastic device wasn't fit for purpose. We decided that if we were going to continue to supply a leaf chain wear measuring instrument, we wanted it to be a tool that every engineer would want to have in their toolbox. The gauge needed to be accurate and to be able to give a reading of precise percentage elongation. But it also needed to be simple to use. With that in mind, we started to develop the idea of a device that measured leaf chain elongation over a specific number of rivet pins as determined by the pitch of the leaf chain. Operating in a similar fashion to a vernier slide rule, the aim was to create a device that measured the actual length of the chain, that made a comparison to the leaf chain's nominal pitch length and that calculated the percentage of leaf chain wear.

We produced the first prototypes using cardboard, 'Blue Peter' style. With a few modifications to the design, we came up with a device that not only calculated the wear but also measured it. A little more work added the ability to measure the leaf chain pitch and a calibration window, so that it was possible to check the gauge was in tolerance. What was unique about the device was its ability to measure elongation quickly, accurately and with confidence.

The FB Chain Professional Chain Wear Gauge is now the industry standard. It is used extensively by maintenance engineers and insurance inspectors who appreciate the importance of being able to precisely recognise the amount of leaf chain and roller chain wear in a safety-critical lifting chain.



Development of the FB Chain Wear Gauge

Through our work on British Industrial Truck Association (BITA) technical and ISO standards committees we've always been aware of leaf chain safety and the implications of leaf chain wear. For many years we stocked a plastic chain wear gauge which we gave away as a free product to customers. However, it quickly became clear that this flimsy plastic device wasn't fit for purpose. We decided that if we were going to continue to supply a leaf chain wear measuring instrument, we wanted it to be a tool that every engineer would want to have in their toolbox. The gauge needed to be accurate and to be able to give a reading of precise percentage elongation. But it also needed to be simple to use. With that in mind, we started to develop the idea of a device that measured leaf chain elongation over a specific number of rivet pins as determined by the pitch of the leaf chain. Operating in a similar fashion to a vernier slide rule, the aim was to create a device that measured the actual length of the chain, that made a comparison to the leaf chain's nominal pitch length and that calculated the percentage of leaf chain wear.

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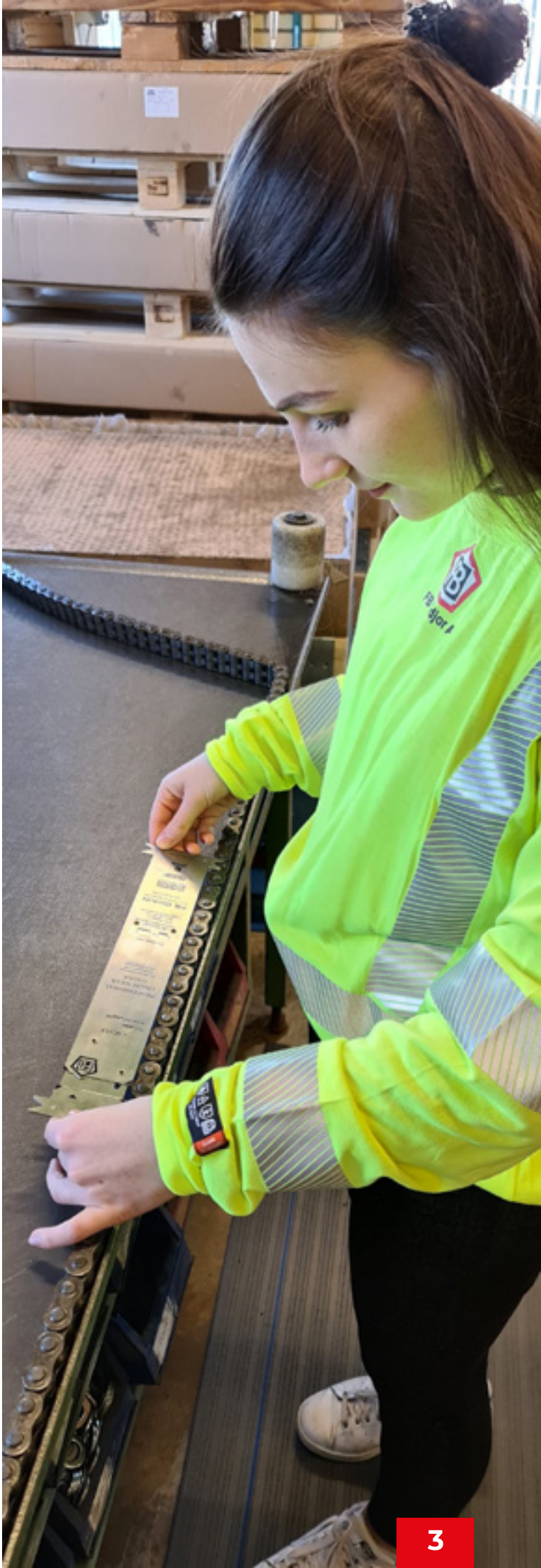
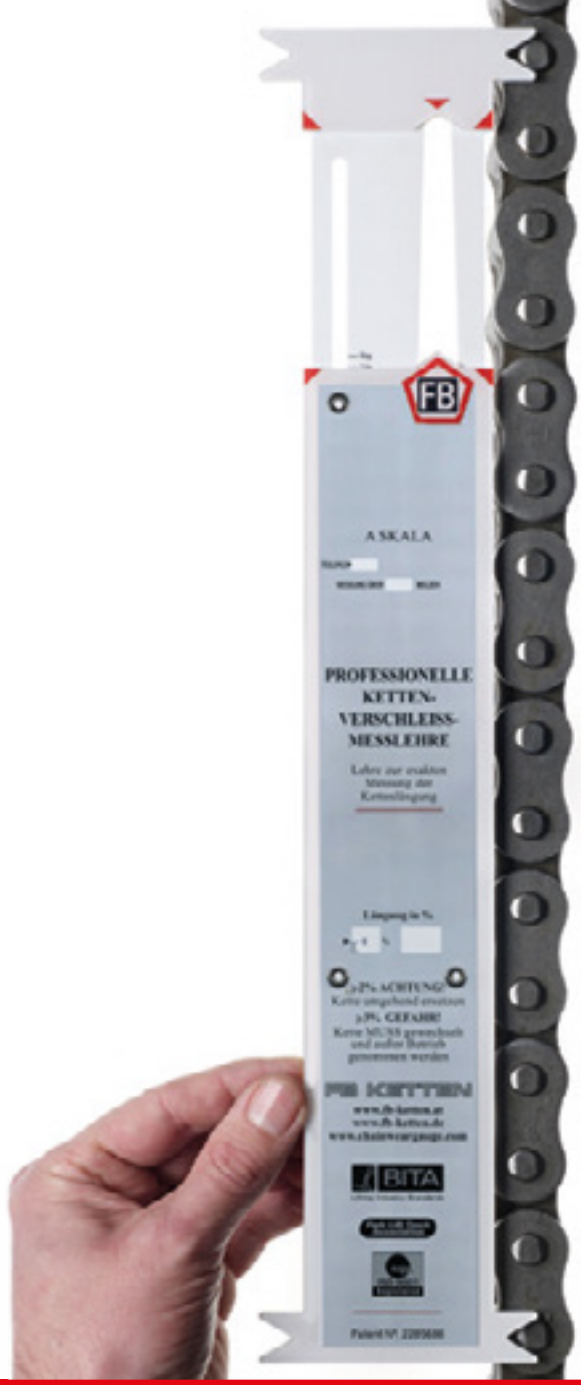


The advantages of a Chain Wear Gauge

The FB chain wear gauge was designed to specifically address the common problems previously associated with the 'Tape/Steel Rule' methods. Having studied all the other versions that were available in the market we noted that several of these, sold and distributed by major OEMs, used measured leaf chain lengths of between 12" - 15". When measuring leaf chain, a compromise needs to be made in determining the length of leaf chain to be measured. Too long a length and there will be a danger of diluting the true extent of the wear, while too short a length will require far greater measuring accuracy than is generally available out in the field. There is strong evidence that it is rarely possible to accurately find the centre line by other 'visual' methods.

With this in mind, the FB 'Professional Chain Wear Gauge' incorporates "V"-jaws for positive pin location and removing the necessity for estimating the position of the pin centre line. The FB Chain Gauge has a window which gives a direct reading of leaf chain wear. This eliminates any need for calculation and removes any confusion or possible error associated with an arithmetical calculation. FB Chain and HSE were closely involved in the drafting of the BITA guidance note GN15 therefore FB has no hesitation in recommending that "Competent Persons" should follow all the guidelines contained within it. The FB Professional Chain Wear Gauge is an instrument designed to fully assist the "Competent Person" by ensuring complete compliance with the GN15 process.



What makes the FB Chain Wear Gauge a better option than tape or steel rule?

Accuracy

- While a tape or steel rule requires visual line up and a totally steady hand, the FB Chain Gauge incorporates "V"-jaws that always locate on the centre of the relevant pin to ensure accurate measurement.
- The percentage of elongation is directly shown in the "Percentage wear" window to ensure complete clarity of the results.

Consistency and repeatability

- The positive location of the "V"-jaws used on the FB Chain Wear Gauge means that the results can be checked and repeated with ease.

Ease of use

- Every FB Chain Gauge is supplied with full and comprehensive instructions that describe the process of measurement in detail and give clear guidance on the correct process to be followed.
- With the ease of use of the chain gauge, and the positive location on the pin ends, it is equally effective whether in the hands of a skilled engineer or a complete novice.

FB Chain in the world

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