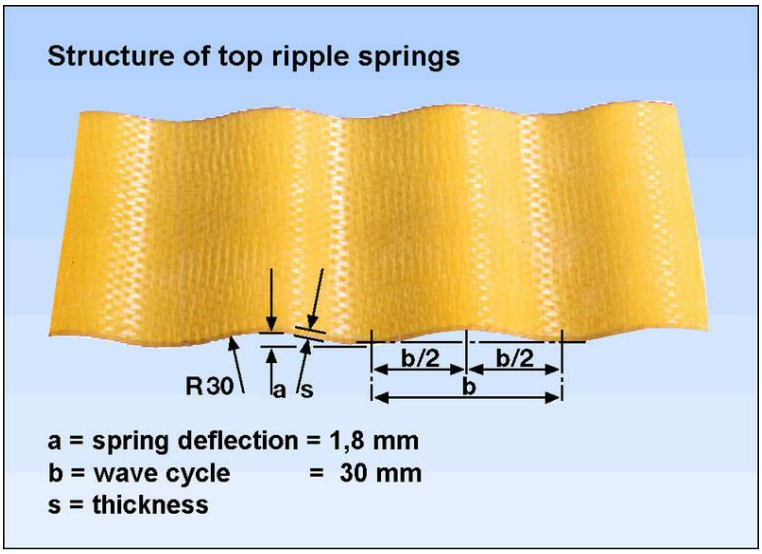
KREMPEL GROUP

Data Sheet: TOP RIPPLE SPRINGS

Advantages.

The electrically insulating KREMPEL Top Ripple Springs are available for this purpose. They largely prevent loosening of the slot wedge commonly encountered with conventional fixing system subjected to continual vibration and thermal cycling. This extends the periods between necessary machine overhauls – a distinct advantage for you and your customers.

KREMPEL Top Ripple Springs are the mechanically securing elements in the slot top region, based on the interplay of spring action and electrical insulation.



Structure, manufacture, and characteristics

Top Ripple Springs from KREMPEL consist of several layers of glass fibre roving fabric bonded with a high temperature resistant synthetic resin matrix. The proportion of glass fibres in the warp direction (stress direction) is about 15 times greater than in the weft direction. The glass content of the corrugated sheet material is approx. 70%.

Our Top Ripple Springs are pressed to ripple form in heated moulding presses. The ripples run at 90° with respect to the cut edges. The resin matrix is completely crosslinked and cured after the pressing process. The structure and geometry of the KREMPEL springs are designed to meet the requirements of high voltage electrical engineering. The spring characteristic is almost linear up to 65% of the spring deflection. The flexural stress arising when the Top Ripple Springs is pressed flat is less than the flexural strength of the material. This is of primary importane because the Top Ripple Springs is compressed to about 80% of its spring deflection when inserting it into the slot.

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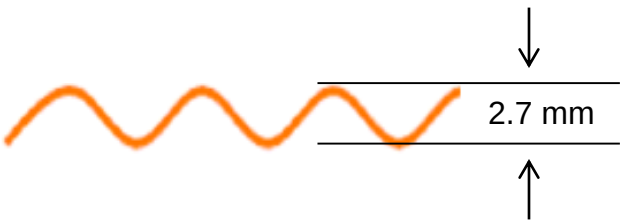
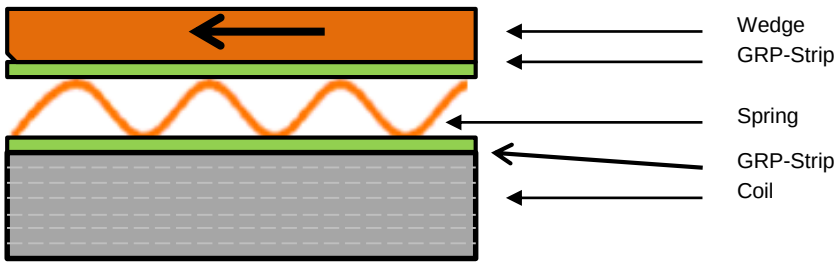
Insertion of Krempel Top Ripple Springs

Krempel Top Ripple Springs with a thickness of 0.9 mm have a 2.7 mm uncompressed total height:



The springs should be compressed 1.4 to 1.5 mm with a spring force high enough to stabilize bars/coils in the slots. (Total height of the spring after compression: appr. 1.2 – 1.3 mm)

To achieve measurements of spring compression, small wholes can be left in the top wedges.
Also, when driving in top wedges over the springs, care should be taken not to crack the springs and it is recommended that strips are above and below the springs.



Downward hydraulic pressure can also be applied to assist wedging and some manufacturers use a vibratory effect.

Don´t use a hammer for the insertion of the wedges, if the dynamic shock may crack the springs!!!

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Top ripple Springs

Dimensions, formats and characteristics values for “top ripple springs”

Type	Nominal thickness mm	Tolerance mm	Density approx. g/cm³	Standard format of master sheets approx mm x mm	For insulation system in class	Loss of ignition	Spring pressure for 80% spring deflection reduction approx. N/mm²
Top ripple spring 0.8	0.8	+0.20 -0.05	1.8	460 x 960	F	28±5	>0.6
Top ripple spring 0.9	0.9	+0.25 -0.05	1.8	460 x 960	F	28±5	>0.9

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