

## CROSS STAR®-NEEDLES

### FOR THE PRODUCTION OF GEO- TEXTILES AND HIGH DENSITY TECHNICAL FELTS



Characteristic advantages offered by this new needle from Groz-Beckert include controlled production and minimal distortion of the finished product. Compared to needles with a standard triangular working part, the Cross STAR® needle has a four edged working part cross-section. This makes it particularly advantageous for the production of Geotextiles and all kinds of technical and industrial felts which require a high

density, even in the field of heavyweight materials. It ensures the consistent regularity of the felt and a high degree of longitudinal and lateral tensile strength. Measurable product improvements can thus be achieved.

**With the Cross STAR® needle, we have introduced a powerful addition to our already extensive product range.**

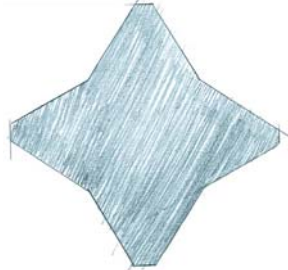
## EFFICIENT NEEDLING, EVEN INTO HEAVYWEIGHT MATERIALS

### CROSS STAR® AND TRIANGULAR-PROFILE NEEDLES COMPARED

#### Working part

The cross-section of the working part resembles a regular four edged star with exterior angles of 60°.

The arrangement of the barbs on the four edges gives the finished product the optimum characteristics.



CROSS STAR® FOUR EDGED WORKING PART



STANDARD TRIANGULAR WORKING PART

#### Examples

##### 614441

15 x 18 x 36 x 3 C4x1 G 43427

##### 614961

15 x 18 x 38 x 3 C4x2 G 43017

##### 616681

15 x 18 x 40 x 3 C4x2 G 43017

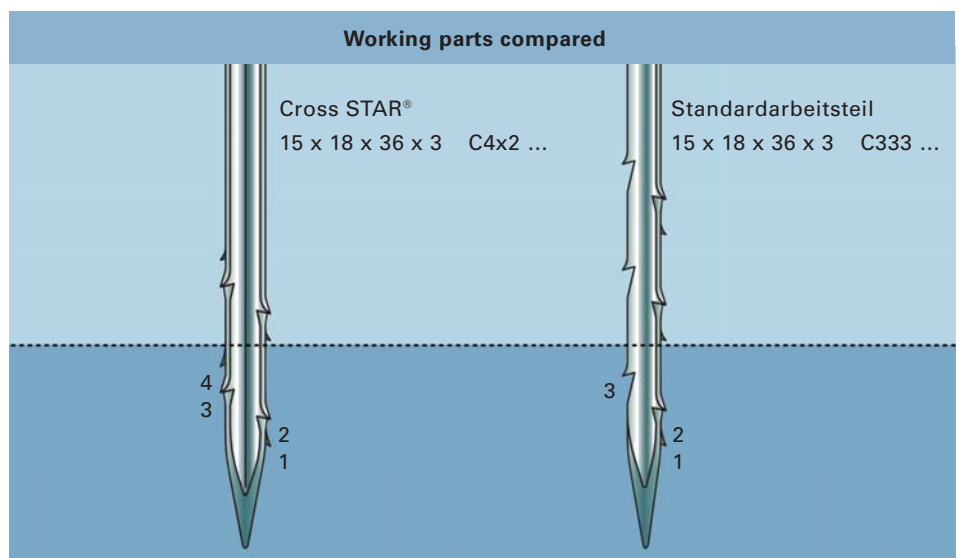
#### Applications

Cross STAR® needles enable an efficient and economic needling process. The performance of the entire operation of a nonwoven production line can be improved to a marked extent.

Each Groz-Beckert needle is a special needle with a particular application for individual market segments. Cross STAR® needles can be used to advantage in the production of a wide range of technical felts. The production of different Geotextiles, e.g. landscaping felts, drainage felts and heavyweight sealing mats is comprehensively covered by 32, 36, 38 and 40 gauge needles. The use of our Cross STAR® needles ensures an optimum degree of the quality requirements on the product.

A high needling efficiency is assured by four edges with barbs permitting to fully benefit from high speed needling machines.

At the same depth of penetration, the Cross STAR® needle offers up four barbs, as against three barbs by the standard working part



THE GROZ-BECKERT CROSS STAR® NEEDLE ACHIEVES HIGHER NEEDLING EFFICIENCY AT THE SAME PENETRATION DEPTH

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