



## Print Prepared Wool Fibre

### The Problem

The continuous coloration of synthetic carpets is a well-established technology, accounting for 30-40% of world-wide carpet production. Until now the continuous printing of wool carpets has been difficult because of the natural attributes of wool (water repellancy, for one). Continuous printing processes make it very difficult to obtain the deep, rich colours regularly achieved with conventional wool dyeing techniques.

### STRIKE!™ The Solution

STRIKE!™ is a New Zealand wool fibre specifically engineered to obtain optimum carpet coloration performance. Developed by the Wool Research Organisation of New Zealand, STRIKE!™ overcomes the difficulties of modern wool carpet printing. It is easily wet, and readily absorbs all types of wool dyes, giving lightfast and washfast coloration. No extra processing or treatments are required to achieve bright, rich colours and excellent pattern definition.

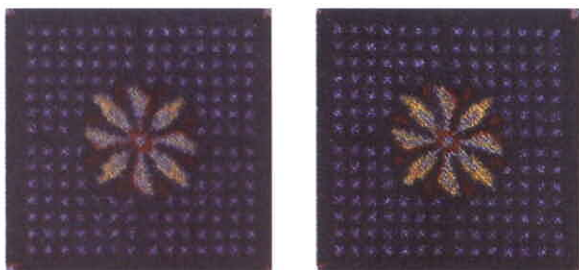


Figure 1: Standard printed wool and Strike!™ printed wool.

### Technical Details

- **Superior colour yield**

Deeper shades can be obtained from lower strength dye solutions, bringing substantial cost savings. In addition, after steaming there is less dye unfixated to the fibre, resulting in cleaner wash water. This means expensive dyes are not going down the drain and environmental consequences are significantly reduced.

The superior colour yield performance of STRIKE!™ offers greater design flexibility and a wider choice of colour and shade. Because STRIKE!™ allows the dyeing of deeper shades, substantially richer colours than are currently available can be used, without having to heat the carpet to temperatures where colours change and fibre damage occurs.

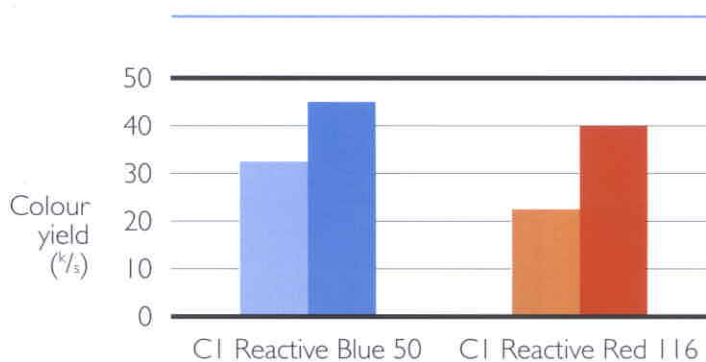


Figure 2: Comparison of colour yield for two commonly used reactive wool dyes

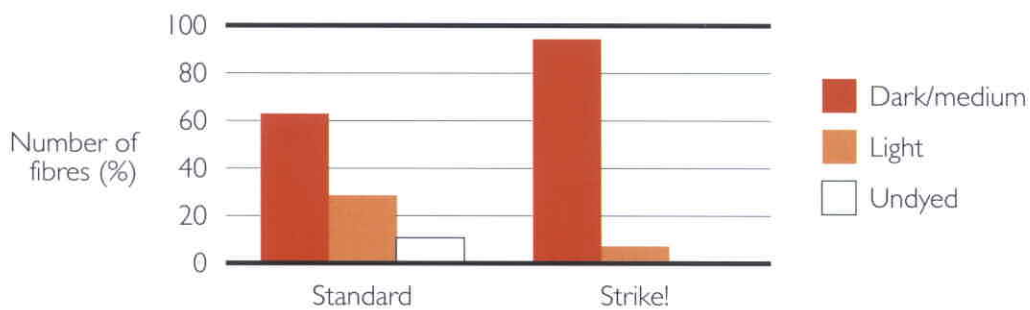


Figure 3: Variation in dye uptake

- **No problems with frosting**

Frosting is caused by poor wetting of the fibres by the printing paste resulting in some fibres remaining undyed. It is highly visible, lightening the colour, and giving a cobweb appearance to the material. STRIKE!™ does not suffer from frosting, and gives printed materials with excellent surface appearance.

- **Mechanical carpet properties maintained**

Standard performance testing has shown that carpets made from STRIKE!™ have the same properties as normal wool or wool-rich carpets. In fact, in some constructions STRIKE!™ carpets produced slightly improved abrasion resistance. However, very light colours may show a slightly greater propensity to staining and wet soiling.

### Benefits

- STRIKE!™ provides a no-fuss solution to obtaining superior printing performance on wool and wool-rich carpets.
- STRIKE!™ gives excellent colour yield, allowing the continuous dyeing and printing of deeper, richer colours.
- Superior clarity and pattern definition.
- STRIKE!™ gives a coloured or printed substrate free from frosting.
- STRIKE!™ does not compromise the superior performance standards of quality wool and wool-rich carpets.
- STRIKE!™ offers cost savings through increased colour yields, reduced dyestuff consumption and fewer effluent problems.

Quality, innovation and progressive industry partnerships underpin the Wools of New Zealand branding programme. Wools of New Zealand and the internationally recognised Wool Research Organisation of New Zealand (WRONZ), have forged a strong partnership with the common objective of developing technologies which meet the needs of processors, manufacturers and consumers.