

## INDUSTRIAL LAUNDRY MONITOR (ILM)

## IN-ILM-T-UK

*This information sheet gives a further explanation of the results obtained with the Industrial Laundry Monitor.*

### STANDARDS

The mentioned standards are derived from the RAL 992 1 and 2. These standards apply to institutional, private and hospital laundry. A deviation compared with this standard must always be evaluated in relation with the type of laundry and applied washing process. When, for example, a process is used for heavily soiled laundry, the results might be unfavourable compared with this standard, but can be satisfactory.

### TOTAL WEAR [% loss of tensile strength]

The loss of tensile strength is an indication for the total wear, which consists of a mechanical and a chemical part. This is determined by measuring the loss in tensile strength according to DIN 53857 T1 and DIN 53919 T2 (8.2). A high loss of tensile strength will be found when for example the water levels are too low. Also when applying a special process with more mechanical action a high loss of tensile strength can be found. If the chemical wear is too high, normally the total wear will also be too high.

### CHEMICAL WEAR [damaging factor]

The chemical wear is determined by establishing the average chain length of the cellulose polymere. This analysis is performed according to DIN 54270 T3. The calculation method for the damaging factor can be found in DIN 53919 T2 (8.3). The damaging factor is a replacement for expressing the chemical wear in % loss of tensile strength. The factor is linear with the damage.

*Example:* the chemical wear is 1.0. This is higher than the standard (0.6). This higher value means that during 25 washings a wear is achieved which meets  $1.0/0.6 * 25 = \text{approx. } 42$  washing cycles. Based on these results insight is obtained in the difference of lifespan.

### ASH CONTENT [%]

The ash content is determined by ashing the conditioned sample in a high temperature oven. The ash that remains is weighed. For this analysis DIN 53919 T2 (8.4.1) is used. The ash content increases when, for example, hard water is used regularly for washing or when rinsing is insufficient.

### WHITENESS IN ARTIFICIAL LIGHT (R) [% remission without UV]

This gives an impression of whiteness in artificial light, without UV. Whiteness which is too low can be caused by greyness. This greyness can develop when rinsing is insufficient or when the amount of detergent (builder) is too low. The analysis is performed according to: DIN 53919 T2 (8.1).

### WHITENESS IN DAYLIGHT (RE) [% remission with UV]

With this analysis, the UV component is determined. The optical brighteners present in detergents convert UV-light into visible light. This gives an 'extra' white impression. The norm therefore is above 100%.