



USTER® *EVS FABRIQ SHADE*

The fabric shade optimization system

Technical Data

October 2018

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With dyed fabrics, the main challenge is color consistency from beginning to end and from side to side of a roll as well as between rolls of the same lot. USTER® EVS FABRIQ SHADE monitors shade variation in almost any process where color is critical.

Elements

of the USTER® EVS FABRIQ SHADE installation



Basic installation

- 1 Test unit with traversing spectrophotometer
- 2 Illumination bar
- 3 EVS Control Unit including touch screen

Options

- 4 Optimized Cut Control (OCC) with laser pointer (no illustration)
- 5 Infrared marker (no illustration)

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Basic installation

Overall installation	Functions	<ul style="list-style-type: none">– Monitors shade variation in almost any process where color is critical– Moving spectrophotometer measures color consistency from beginning to end and from side to side of a roll as well as between rolls of the same lot– Offers flexible angle and can be adapted to any horizontal or vertical fabric flow angle– Shade reference can be selected before or at the end of the inspection– The system displays a graph comparing the current measurement with the selected shade reference– Cut planning tool
	Included in the delivery	<ul style="list-style-type: none">– Test unit– Traversing spectrophotometer– EVS Control Unit including touch screen– Application software 'album review'

Subsystem of the USTER® EVS FABRIQ SHADE:

Test unit (1)	Spectrophotometer	<ul style="list-style-type: none">– Accuracy: 0.1 ΔE– Standard CIE-L*a*b shade measurements– Choice of 10 light source standards– Built-in 555 color matching method– Digital shade reference library
	Application range	<ul style="list-style-type: none">– Pieced dyed woven, knitted and warp knitted fabrics– Apparel and home textiles
Installation options	On-line	<ul style="list-style-type: none">– After the dyeing range dryer, at the exit of a finished range as stand-alone systems or together with USTER® EVS FABRIQ VISION
	Off-line	<p>As a stand-alone system installed at the following locations:</p> <ul style="list-style-type: none">– Plant's final quality control post– Warehouse's incoming inspection post– Cut & sew mapping before spreading– Integrated with USTER® EVS FABRIQ VISION

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EVS Control Unit (3)

Computer software

- USTER® EVS FABRIQ SHADE intuitive touch application software
- Windows operating system
- System pre-configured and locked down
- Simple full system update process

Computer hardware

- Computer with Intel® processor
- 1 internal 500 GB hard drive

Options

Optimized Cut Control (OCC) (4)

Application range

- After the album review, the defect map is synchronized with OCC, which then stops the cutting table automatically at the precise point of the planned cut of bad fabric

Infrared marker (5)

Application range

- To locate the exact position of defects and cutting points with high accuracy, USTER uses an infrared marker to put invisible marks on the fabric selvage
- This is used later in the sync process at the OCC, when the infrared sensor detects the invisible marks

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Application Software for USTER® EVS FABRIQ SHADE

Shade reference	Selection of references	<ul style="list-style-type: none">– A previously inspected roll stored in the roll's digital shade-reference library– During fabric monitoring – selection of the next measurement as a reference– After fabric monitoring – selection of any measured point as a reference
Real-time processing	Real-time displays	<ul style="list-style-type: none">– Real-time graph display– Various predefined thresholds for each graph– Activation of an external alarm upon exceeding one or more thresholds– Seam detector for an automatic recognition of the end of a roll– Output to a marking device (optional)– Real-time monitoring display on any remote PC, which is linked to the system via a LAN– Capable of exporting real-time shade readings to other monitoring systems, generating a closed-loop feedback for automatic correction of off-shade situations can be selected at any stage of the inspection for an immediate report's update
Data analysis	Type of report	<ul style="list-style-type: none">– A flexible report generator, capable of a wide range of quality reports– Separate or combined graphs display of CIE L*a*b* or CMC shade measurements and ΔE, ΔL, Δa, and Δb calculations– Numerous shade readings of every indicated location on the roll– Beginning to end and side-to-side display– Zoom-in on any selected piece of the roll– Relative and absolute scientific values in compliance with standards– User-friendly threshold adjustment
Cut planning	Display and printout of the reports	<ul style="list-style-type: none">– Fixed length – rolls are stored into unified shade groups based on consistent preset roll length– Quality classes defined by the operator – provided there is a change of color along the fabric, the cutting is planned to aim at supplying the longest possible shade consistent-roll– Manual cut planning via the shade graph – cuts and cut-outs are programmed utilizing the shade variation graphs, providing immediate feedback of the cutting plan– Cutting per end user performance specifications (programmed into the system in advance)

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Graphic output of results

Diagram

- Delta E:
Shows the overall average shade variation combining values of L, a and b
- Delta L:
Shows the overall lightness or darkness compared to sample and fabric inspected
- Delta a:
Determines the red shade and green shade distinction between the sample and the fabric inspected
- Delta b:
Determines the yellow shade and blue shade distinction between the sample and the fabric inspected
- Delta L-a-b:
For better grouping of fabric it is advisory to also consider lightness, chromaticity and hue, as it may be possible that ΔE is sometimes under the threshold value
- Delta h:
Determines the hue difference between the sample and the fabric inspected
- Delta C:
Determines the saturation and chromaticity difference between the sample and the fabric inspected

Input data, output of results, languages, units

Dialog and report languages

English, German, French, Italian, Spanish, Portuguese, Turkish, Hebrew, Polish, Dutch, Czech, Chinese or Japanese can be selected (other languages on request)

Possible units

- Length: foot, yard or meter
- Width: inch or millimeter
- Points per 100: foot, yard or meter
- Majors per 100: foot, yard or meter
- Speed: ft/min, yd/min or m/min

Selftest

Function check

- Remote support capabilities built-in
- Diagnostic tools with extensive event logging

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Installation conditions

General ambient conditions	Mill climate	<ul style="list-style-type: none">- The temperature should be maintained below 45° C and the humidity should be kept below 80 % without condensation- The general electronic devices of the system may behave abnormally and usually have higher failure rates above the specified limits
Installation	Electrical connection	Single phase with protective conductor
	Mains voltage range	100 – 240 VAC
	Mains frequency	50/60 Hz
	Power consumption	Maximum 1500 VA
	Place	<ul style="list-style-type: none">- The distances from the USTER® EVS FABRIQ SHADE to mains should not exceed 25 m- The main should be protected by surge suppressers and secured with a circuit breaker
Inspection width	Compressed air connection	<ul style="list-style-type: none">- Not required
	Standard	<ul style="list-style-type: none">- 2600 mm ≈ 2.84 yards- 3200 mm ≈ 3.50 yards
Gross weight of the basic function		<ul style="list-style-type: none">- Test unit: 750 kg- Control unit: 135 kg- Complete system: 885 kg

Uster Technologies has made all possible efforts to ensure that all information is accurate at the time of publication. Hereby it is declared that alterations to the product may be possible at any time. In these cases the information contained in this technical datasheet is subject to change without notice.

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