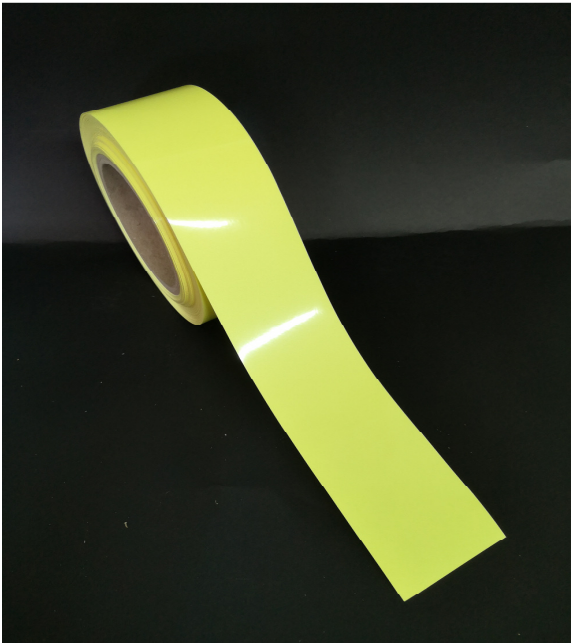


**GENERAL CHARACTERISTICS**

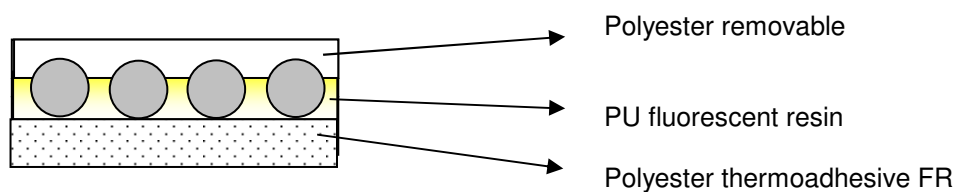


The product basically consists of metallised microspheres having known reflective index and extremely high refraction power, partially incorporated in a removable polyester (front layer) and permanently bonded to a thermoadhesive (backing layer). The thermoadhesive polyester base provide excellent adhesion to the most common type of fabric, with high flexibility characteristics for a higher resistance to the finished product.

RETROLUX TT 900 COMBY-Y is a reflective thermotransfer designed for:

- Application on flame retardant garments, especially for logos
- Improve the daytime and nighttime visibility of the garments
- offer a high resistance of the clothing to repeated domestic washings

**PRODUCT COMPOSITION**



**COLORIMETRY**

<b>New material:</b>	<b>Y=87.0</b>	<b>x= 0,370</b>	<b>y= 0,505</b>
<b>After xenon test:</b>	<b>Y=80.0</b>	<b>x= 0,368</b>	<b>y= 0,484</b>

The colour coordinates and the luminance factor of RETROLUX TT 900 COMBY-Y satisfy all the minimum requirements envisaged by the EN 20471 Norm (combined performance material).

**COEFFICIENT OF RETROREFLECTION\*** (Cd/lux.m<sup>2</sup>)

Observation Angle	Entrance Angle			
	5°	20°	30°	40°
12'	95-100	97-102	92-95	62-65
20'	73-75	75-77	70-72	58-60
1°	9 -9.7	9.4-9.6	9.3-9.7	8.0-7.8
1° 30'	51-5.6	4.8-5.2	4.4-4.6	3.7-3.8

\*The values were obtained from an average of various sets of samples. Reflected colour: white.

The reflective fabric called RETROLUX TT 900 COMBY-Y FR satisfies all the minimum requirements accordingly EN 20471 Norm (combined performance material)

**PHYSICAL PERFORMANCE**

RETROLUX TT 900 COMBY-Y satisfies the following features:

1. Colour fastness to dry friction (ISO 105 X12 10 cycles): Index 5
2. Colour fastness to wet friction (ISO 105 X12 10 cycles): Index 5
3. Colour fastness to mechanical washing with synthetic cleaning (ISO C06, C1S test - 60°C without perborates): Index 5
4. Colour fastness to dry cleaning wash (ISO 105 D01 – perchloroethylene 30°C): Index 5

**WASHING PERFORMANCES**

RETROLUX TT 900 COMBY-Y exceed the minimum reflective values after:

**25 cycles** at 60°C (ISO 6330)

**80 cycles** at 40 °C (ISO 6330)

**Wash guideline**


**Minimum temperature: 30 °C**  
**Maximum temperature: 62 °C**

**Detergent:** Use only ECE type A without perborates

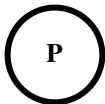


- Optical brightness, perborates or additional bleaches, reduces washing performances of RETROLUX TT 900 COMBY-Y.
- Do not use organic solvents, chlorine bleaches and alkaline products (pH>8).
- Do not exceed 62 °C during wash

### **Drying Conditions**

- Air drying is recommended.

### **Dry cleaning**



Use pure Perchloroethylene

### **FLAME RESISTANCE PROPERTIES**

RETROLUX TT 900 comby-y satisfies the following requirements:

**EN 14116:2015, EN 11612:2015, EN 15614:2007;**

**Limited flame spread** (test method EN 15025):  
before and after 25 washing cycles at 60 °C

**EN 11612:2009, EN 15614:2007 (EN469:2007)**

**Heat resistance** at 180 °C before and after 25 washing cycles at 60 °C

### **ADDITIONAL INFORMATION**

The material is supplied in rolls of 50 linear meters length and in all widths from 1 cm till 1 meter. The cut tolerance is  $\pm 1.5$  mm.

The thermotransfers of the Retrolux series can be cut with cutting plotters, with dies and with laser.

For the kiss cut, we recommend to make a specific machine adjustment with preliminary tests on the Retrolux reflective transfer, to avoid problems of removing the scraps or dragging the reflective part in the removal of the scraps.

**IRONING:**

Use cool IRON (110°C)



**NOTICE TO USERS**

**APPLICATION**

RETROLUX SUPER TT 900 COMBY-Y HAVE GOOD ADHESION TO VARIOUS TYPES OF SUBSTRATES SUCH AS POLYESTER, COTTON, RUBBER, PVC, LEATHER ETC. WATER REPELLENT OR WATERPROOF FINISHES ON THE SUBSTRATE MAY REDUCE THE THERMAL BONDING STRENGTH.

**CONDITIONS OF APPLICATION**

**TEMPERATURE:** 150 - 155°C

**HEATING TIME:** 12-15 seconds

**PRESSURE:** 3 BAR

**NOTES:**

The parameters stated above are obtained from internal tests performed on some common types of substrates (polyester/cotton).

The pressure to be used and the heating time are **strictly dependant on the type of plant used and the substrate** on which RETROLUX SUPER TT 900 COMBY-Y must be applied.

BEFORE HOT MELTING **RETROLUX SUPER TT 900 COMBY-Y** ON ANY TYPE OF SURFACE PRELIMINARY TESTS MUST BE CONDUCTED TO DETERMINE THE OPTIMUM CONDITIONS OF BONDING.

Lamination method roll to roll with heated calenders, may require completely different conditions then those above mentioned.

### **PRINTABILITY**

The product correctly transferred and in any case without the front liner, can be printed using inks suitable for polyester or other inks, carrying out preliminary adhesion tests.

We recommend the application of the ink with screen printing technique, good results have been obtained with digital printing with ecosolvent inks.

The correct adhesion of the inks must also be verified by subjecting the printed product to repeated washing.

### **STORAGE**

Retrolux reflective transfer must be stored in a cool and dry area, we recommend temperatures between 15 and 25 °C and relative humidity less than 70%.

Retrolux reflective transfer must be stored in their original box and used within 1 year of receipt.

**FOR FURTHER INFORMATION CONTACT IRC S.p.A - Italy**

Laboratory Manager