



Technical Data Sheet

Product Description

Coats Signal C412 500 is an aramid based retro reflective tape for all types of industrial wash heat and flame protective clothing. When illuminated by a light source, it helps to enhance the visibility in night-time or difficult weather conditions.

Product Construction

Coats Signal C412 500 is made of high-performance glass beads laminated on a durable 100% m-aramid fabric backing. The daytime colour is silver and when illuminated by light the reflected colour is white. Coats Signal C41 2500 can be customized with either a segmentation pattern or logos using laser engraving to create a unique appearance.

Areas of Applications

Coats Signal C412 500 is a sew-on reflective tape for all types of high visibility industrial wash heat and flame protective clothing where EN ISO 20471, ANSI/ISEA 107, EN 469, EN ISO 11611, EN ISO 11612, EN ISO 14116, EN ISO 15384 and NFPA certifications are required. All high visibility garments should be made according to proper standards.

Product Certification

Reflective Performance – EN ISO 20471:2013+A1:2016

Coats Signal C412 500 is approved according to EN ISO 20471 high visibility standard. It delivers maximum retro reflective performance. The typical reflective performance (RA in cd/lux/m²) according to EN ISO 20471, table 4 is shown below.

Observation angle	Entrance angle	Coats Signal C412 500	Minimum norm requirement
12'	5°	500	330

Article Number / Make-up

Art. No.: C412 500 / width: 50.8mm (±0.8) - roll of 100 m

Art. No.: C412 500 / various widths available

Care Instructions

Domestic Wash



Industrial wash

- Maximum washing temperature: 75°C
- Tumble drying: max. 90°C
- Tunnel drying: max. 160°C
- Use low alkaline, OBA free surfactant detergent, do not use sodium hydroxide or potassium hydroxide containing detergents, lower pH near to neutral is recommended
- Do not use solvenated surfactants
- Do not use any bleaching agents, avoid perborate and chlorine bleaches
- Soak soap for less than 15 min.

Physical Performance

Coats Signal C412 500 meets or exceeds in origin the performance as per EN ISO 20471, clause 6.1 as well as the requirements in clause 6.2 after exposure to abrasion, flexing, folding at cold temperature, temperature variation, washing, dry cleaning and influence of rainfall. The following table shows the detail specifications.

Tests	Details
Retro reflective performance in origin	EN ISO 20471:2013+A1:2016, pt. 6.1, table 4 Test method: CIE 54.2
Retro reflective performance after pre-treatment	EN ISO 20471:2013+A1:2016, pt. 6.2, table 6 Test method: CIE 54.2
Abrasion	EN ISO 12947-2:2016, 9 kPa, wool, 5000 cycles
Flexing	EN ISO 7854:1997, method A, 7500 cycles
Folding at cold temperature	ISO 4675:2017, (-20 ±2)°C
Temperature variation	EN ISO 20471:2013, pt. 7.4.4, 12 hours @ (+50±2)°C & 20 hours @ (-30±2)°C
Domestic washing 60°C with tumble drying	EN ISO 6330:2021, method 6N+F, 100 cycles
Industrial washing 75°C with tumble drying at 90°C and tunnel drying at 160°C	EN ISO 15797:2018, method 8 (table 4/procedure 2) with tumble dry (90°C) and tunnel dry (160°C), 50 cycles
Dry cleaning	EN ISO 3175-2:2010, perchloroethylene, 50 cycles
Influence of rain	EN ISO 20471:2013+A1:2016, annex C

Heat Resistance and Limited Flame Spread Performance

Coats Signal C412 500 meets the heat resistance and limited flame spread requirements according to EN 469, EN ISO 11611, EN ISO 11612, EN ISO 14116, EN ISO 15384 and NFPA in new condition and after washing/dry cleaning. The following table shows the detail specifications.

Tests	Details
Heat resistance	ISO 17493, 5 min. (180 ± 5) °C
EN 469:2020, clause 6.2.6.4	ISO 17493, 5 min. (260 ± 5) °C
EN ISO 11612:2015, clause 6.2.1	
EN ISO 15384:2020, clause 6.1	
Limited flame spread	ISO 15025, Procedure A (face ignition)
EN 469:2020, clause 6.2.1.1	ISO 15025, Procedure B (bottom edge ignition)
EN ISO 11611:2015	
EN ISO 11612:2015	
EN ISO 14116:2015	
EN ISO 15384:2020, clause 6.3	

	NFPA 1950 (1951)	NFPA 1970 (1971)	NFPA 1950 (1977)	NFPA 2112	CAN/CGSB 155.20	CAN/CGSB 155.20
C412 500	X	X	X	X	X	X

STANDARD 100 by OEKO-TEX®

This article is certified according to STANDARD 100 by OEKO-TEX®, class II.

Storage and Shelf Life

Coats Signal reflective tapes should be stored in a cool (5°C to 25°C) and dry place (less than 70% relative humidity) and used within one year of date of receipt. The used rolls should be returned to original packaging or suspended from the middle by using a rod.

General Safety Information

Since conditions and applications vary considerably in the use of a product, the customer and/or user should assure herself or himself that the product meets end customer requirements and is suitable for the intended end use. Coats accepts no liability for unsuitable or improper use or application of products. Information provided above is based on current averages and should be taken only as indicative. Coats accepts no liability for the preciseness and correctness of the information provided.

Product information sheets are updated from time to time, please be sure you are referring to the most recent publication. Coats supports customers with advice on individual applications on request; if you have any questions or concerns, please contact us. Coats Signal cannot guarantee an absolute visibility especially in severe weather conditions.

Further Assistance

Please contact your local Coats representative for further assistance.