

DESCRIPTION

Parts

Z-Link® capes and face seals, T-Link® hoods, Z100® series

Type description

Fire and chemical resistant coated fire resistant fabric

Application ranges (including but not limited to the following)

All types of electro-arc welding - covered electrodes, MIG/MAG, TIG/WIG, plasma welding, laser welding, gas welding, chemical handling, pharmaceutical and others.

FABRIC SPECIFICATIONS

7.6 oz Twill - 100% cotton

3X1 LH TWILL	PROCESS AVERAGE	SPECS	TEST METHOD
WEIGHT	7.6 OZ/YD2	7.5 OZ/YD2 (+/-5%)	ASTM D3776
WEIGHT (OVERALL/ CUTTABLE)	64.6"/63.0"	≥ 62.0" CUTTABLE	ASTM D3774
TEAR STRENGTH (LBS W X F)	10.3 X 10.5	≥ 7.0 X ≥ 7.0	ASTM D1424 (ISO 13937)
TENSILE STRENGTH (LBS W X F)	134 X 63	≥ 90 X ≥ 60	ASTM D5034
LAUNDRY SHRINKAGE (W X F) AFTER 5 WASH	0.9% X 0.1%	≤ 3.0% X ≤ 3.0%	ASTM 1506 AATCC 135-3, IV, AIII
LAUNDRY SHRINKAGE IL (W X F) AFTER 10 WASH	2.9% X 0.1%	≤ 3.5% X ≤ 3.5%	NFPA 2112 WASH METHOD
VERTICAL FLAME, IN. (W X F)	3.4" X 3.3"	≤ 4.0" X ≤ 4.0"	ASTM D6413
VERTICAL FLAME, IN. (W X F) AFTER 100 IL	3.6" X 3.6"	≤ 4.0" X ≤ 4.0"	ASTM D6413 NFPA 2112 (WASH)
ARC RATING ATPV, (CAL/CM ²)	8.0*	≥ 8.0	ASTM F1959

UL® certified to NFPA 2112

Arc Rated according to ASTM F1506 for NFPA 70E as Arc Flash PPE Category 2, June 2009

*Arc rating based on a typical or high volume market color: Navy

Note: "Process Averages" are historical averages; actual results may vary by lot (but will meet the min. "Specs.") Manikin testing at University of Alberta.

Guaranteed flame resistance for the life of the garment (when washed according to care instructions).

COATING SPECIFICATIONS

Hypalon®

Specifications: CSM - Chlorosulfonated Polyethylene

RUBBER PROPERTIES	TEST METHOD	TYPICAL VALUE
HARDNESS (SHORE A)	ASTM D2240	60±5
THICKNESS		0.045"
WEIGHT		6.35 OZ/YD ²
TENSILE STRENGTH	ASTM D412	1000 PSI MIN
ELONGATION	ASTM D412	350% MIN
FINISH	VISUAL	PLATE/SMOOTH
COLOR	VISUAL	GRAY
TEMPERATURE RANGE	VISUAL	-40°F TO 275°F CONTINUOUS
ABRASION RESISTANCE	VISUAL	GOOD – EXCELLENT
FLEX CRACKING RESISTANCE	VISUAL	FAIR TO GOOD
FLAME RESISTANCE	VISUAL	GOOD TO EXCELLENT
GAS PERMEABILITY	VISUAL	GOOD TO EXCELLENT
SUNLIGHT RESISTANCE	VISUAL	EXCELLENT
WEATHER RESISTANCE	VISUAL	EXCELLENT

CHEMICAL RESISTANCE	TEST METHOD	TYPICAL VALUE
ACIDS, DILUTE	VISUAL	EXCELLENT
ACIDS, CONCENTRATED	VISUAL	GOOD TO EXCELLENT
ACIDS, ORGANIC (DILUTE)	VISUAL	EXCELLENT
ACIDS, ORGANIC (CONCENTRATED)	VISUAL	GOOD
ACIDS, INORGANIC	VISUAL	GOOD TO EXCELLENT
ALCOHOL'S	VISUAL	EXCELLENT
ALDEHYDES	VISUAL	POOR TO FAIR
ALKALIES, DILUTE	VISUAL	GOOD TO EXCELLENT
ALKALIES, CONCENTRATED	VISUAL	GOOD TO EXCELLENT
AMINES	VISUAL	POOR
ANIMAL & VEGETABLE OILS	VISUAL	GOOD
BRAKE FLUIDS, NON-PETROLEUM BASED	VISUAL	FAIR
DIESTER OILS	VISUAL	POOR
ESTERS, ALKYL PHOSPHATE	VISUAL	POOR
ESTERS, ARYL PHOSPHATE	VISUAL	FAIR
ETHERS	VISUAL	POOR

CHEMICAL RESISTANCE	TEST METHOD	TYPICAL VALUE
FUEL, ALIPHATIC HYDROCARBON	VISUAL	FAIR TO GOOD
FUEL, AROMATIC HYDROCARBON	VISUAL	FAIR
FUEL, EXTENDED (OXYGENATED)	VISUAL	FAIR
HALOGENATED SOLVENTS	VISUAL	POOR
HYDROCARBON	VISUAL	HALOGENATED POOR
KETONES	VISUAL	POOR
LACQUER SOLVENTS	VISUAL	POOR
LP GASES & FUEL OILS	VISUAL	GOOD
MINERAL OILS	VISUAL	GOOD TO VERY GOOD
OIL RESISTANCE	VISUAL	FAIR TO GOOD
PETROLEUM AROMATIC	VISUAL	POOR
PETROLEUM NON-AROMATIC	VISUAL	FAIR
REFRIGERANT AMMONIA	VISUAL	GOOD
REFRIGERANT HALOFLUOROCARBONS	VISUAL	R-11, R-12, R-13
REFRIGERANT HALOFLUOROCARBONS W/ OIL	VISUAL	R-11, R-12, R-22
SILICONE OIL	VISUAL	EXCELLENT

CHEMICAL RESISTANCE	TEST METHOD	TYPICAL VALUE
SOLVENT RESISTANCE	VISUAL	FAIR TO GOOD

GENERAL POLYMER CHARACTERISTICS:

Hypalon® Rubber, (sometimes called CSE or CSM, chlorosulfonated elastomer or chlorosulfonated monomer) was previously a registered trademark of DuPont® Elastomers. These polymers are a group of peroxide and sulfur curable elastomers based on chlorosulfonated and chlorinated polyethylene. Due to its unique chemical configuration, Hypalon® rubber products are extremely resistant to attack by ozone, weather and oxygen. These properties make the rubber suitable for outdoor exposure in a broad range of applications.

Laundry Guide

Commercial Laundering

DETERGENT AND SUPPLEMENTAL CHEMICALS

Washing detergent supplies

Detergents designed for use at wash temperatures of 140°F (60°C) or less such as high surfactant, low alkalinity products have gained some popularity, and have no adverse effect on Zytec®, fabrics. It is important to use a detergent and wash temperature that is sufficient to thoroughly clean the soiled clothing, even considering supplemental alkalinity and higher wash temperatures, where appropriate. Use of a detergent with a phosphate builder has proven highly beneficial for laundering Zytec® flame resistant fabric. The best results in cleaning and utilization of detergent supplies are obtained when using softened water. Zytec® fabrics can be washed at temperatures up to 165°F (75°C).

Alkalinity

Detergents used commercially have pH values ranging from 9–13, and in most instances, are effective in removing dirt and oil from soiled garments. In instances requiring more aggressive soil and oil removal, higher wash temperatures and

supplemental alkalinity should be considered. If softened water is not available, we recommend against the use of silicate supplemented detergents. Zytec® fabrics are not adversely affected by high pH, however, the effect on colorfastness of garments should be checked to maintain an acceptable balance between cleanliness and color retention.

Softeners

We recommend against the use of a supplemental softener, except in unique circumstances that are specifically described to us and that are tested for impact on flame resistance.

Starch

We recommend against the use of starch or other hand builders, except in unique circumstances that are specifically described to us and that are tested for impact on flame resistance.

DETERGENTS AND SUPPLEMENTAL CHEMICALS TO AVOID

Chlorine bleach

CHLORINE BLEACH (SODIUM HYPOCHLORITE) MUST NOT BE USED ON GARMENTS MADE WITH ZYTEC® FABRICS, EITHER SEPARATELY OR IN DETERGENTS.

Chlorine bleach can adversely affect the flame resistance of the fabric. Review of various laundry advisories generally prohibit the use of chlorine bleach for protective fabrics of any fiber composition.

Hydrogen peroxide bleach

HYDROGEN PEROXIDE, WHICH IS AN OXYGEN BLEACH MUST NOT BE USED ON GARMENTS CONSTRUCTED OF ZYTEC® FABRICS, EITHER SEPARATELY OR IN DETERGENTS.

The presence of metals with hydrogen peroxide can adversely affect the flame resistance of the fabric.

Soaps

THE USE OF SOAPS (SALTS OF FATTY ACIDS) IS NOT RECOMMENDED FOR LAUNDERING GARMENTS MADE WITH ZYTEC® FABRICS.

Soaps can form insoluble scums with hard water that are deposited on the fabric. Soap scums may be flammable and can adversely affect the thermal protection performance of the garment if they burn.

RECOMMENDED WASHING/DRYING PROCEDURES

It is recommended that garments be washed and dried inside out. This will minimize surface abrasion and aid in maintaining the surface appearance of garments constructed of Zytec® fabrics.

Washing procedures general formula

General household detergents without bleach are recommended. Spot cleaners may also be used.

Loading washer

Garments made with Zytec® fabrics can be washed in a variety of wash formulations depending on the degree and type of soil. Zytec® fabrics should be washed with other Zytec® fabrics. Be sure that Zytec® fabrics are clearly identifiable. Care should be exercised in mixing light and dark colors, as well as heavy and light soil items in the load. Normal washer loads are generally set at 80% of washer capacity for 100% cotton garments, however, loading at 65% will provide better cleaning for heavily soiled items.

Wash temperature

The range of wash temperatures suggested take into account various degrees of soiling. The higher the temperatures, the better the cleaning for heavily soiled garments. However, compatibility of wash temperature with the detergent used should be checked. The maximum wash temperature for Zytec® fabrics is 165°F (74°C).

Colorfastness of garments

Wash temperatures higher than 165°F (74°C) may affect the wash fastness (color loss) of certain colors. Likewise,

the presence of sodium perborate in the wash system will significantly affect the shade of certain naphthol dyes.

Rinsing

Zytec® fabrics must be adequately rinsed to remove wash chemicals and to lower the pH to that of the water supply. To minimize washer-induced wrinkles, water temperature is reduced in each succeeding rinse cycle until the last operation (sour) where it should be 100°F (38°C) or lower.

Drying

Zytec® fabrics should be air dried. Do not tumble dry or dry clean.