(2019년 10월 31일 기준)

# Technical Data for Zytron® & ChemTape® Products.

## ASTM F1001 Chemical Test Battery*

| CHEMICAL | ZYTRON® 100XP | 200 | 300 | 400 | 500 | CHEMTAPE® |
|---|---|---|---|---|---|---|
| Acetone | NT | 17 | >480 | >480 | >480 | >480 |
| Acetonitrile | NT | 52 | 87 | >480 | >480 | >480 |
| Carbon Disulfide | NT | 2 | >480 | >480 | >480 | >480 |
| Dichloromethane | NT | 2 | 70 | 88 | >480 | >480 |
| Diethylamine | NT | 21 | >480 | >480 | >480 | 160 |
| Dimethylformamide | NT | 77 | >480 | >480 | >480 | >480 |
| Ethyl Acetate | NT | 14 | >480 | >480 | >480 | >480 |
| n-Hexane | NT | 7 | >480 | >480 | >480 | >480 |
| Methyl Alcohol | NT | >480 | 55 | >480 | >480 | >480 |
| Nitrobenzene | NT | 97 | >480 | >480 | >480 | >480 |
| Sodium Hydroxide | >480 | >480 | >480 | >480 | >480 | >480 |
| Sulfuric Acid | >480 | >480 | >480 | >480 | >480 | >480 |
| Tetrachloroethylene | NT | 21 | >480 | >480 | >480 | >480 |
| Tetrahydrofuran | NT | 3 | >480 | >480 | >480 | >480 |
| Toluene | NT | 6 | >480 | >480 | >480 | >480 |

*Normalized breakthrough times in minutes in accordance with ASTM F 739.

## Gases

| GASES | ZYTRON® 100XP | 200 | 300 | 400 | 500 | CHEMTAPE® |
|---|---|---|---|---|---|---|
| Ammonia Gas | NT | NT | 39 | NT | >480 | NT |
| 1,3 Butadiene | NT | NT | >480 | NT | >480 | NT |
| Chlorine Gas | NT | NT | >480 | NT | >480 | NT |
| Ethylene Oxide Gas | NT | NT | 81 | 305 | >480 | NT |
| Hydrogen Chloride Gas | NT | NT | >480 | NT | >480 | NT |
| Methyl Chloride Gas | NT | NT | >480 | NT | >480 | NT |

## Chemical Warfare Agent Data

| CHEMICAL AGENT | ZYTRON® 300 BREAKTHROUGH TIME | BREAKTHROUGH CRITERIA |
|---|---|---|
| Bis (2-chloroethyl) sulfide (Mustard:HD) | >480 MINUTES | 4.0 ug/cm2 |
| Isopropyl methylfluorophosphonate (Sarin:GB) | >480 MINUTES | 1.25 ug/cm2 |
| Chlorovinyl arsinedichloride (Lewisite:L) | >240 MINUTES | 4.0 ug/cm2 |
| 0-ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate (Nerve:VX) | >480 MINUTES | 1.25 ug/cm2 |

Agent testing was conducted at Battelle Labs in accordance with MIL-STD-282 and/or NFPA 1994-2001 Edition Standard on Protective Ensembles for Chemical / Biological Terrorism Incidents.

## Typical Physical Properties for Zytron

| TEST METHOD | 100XP | 200 | 300 | 400 | 500 |
|---|---|---|---|---|---|
| Grab Tensile Strength MD* ASTM D751(lbs/N) | 49 / 217 | 52 / 231 | 78 / 347 | 155 / 689 | 120 / 534 |
| Grab Tensile Strength CD* ASTM D751(lbs/N) | 38 / 169 | 39 / 173 | 69 / 307 | 152 / 676 | 121 / 538 |
| Tear Resistance Trapezoid Method MD* ASTM D751(lbs/N) | 17.4 / 77 | 22.9 / 101.8 | 16.6 / 74 | 42.2 / 188 | 35 / 156 |
| Tear Resistance Trapezoid Method CD* ASTM D751(lbs/N) | 10.3 / 45 | 9.6 / 42.7 | 22.1 / 98 | 50.6 / 225 | 37 / 168 |
| Ball Burst ASTM D3787 (lbs/N) | 46 / 204 | 43 / 191 | 583 / 258 | 153 / 681 | 128 / 569 |

* MD - Machine Direction | CD - Cross Direction