# Argothane® TX1540

## Thermoplastic Polyurethane Elastomer

Argotec LLC

### Message:

Applications: Performance apparel & footwear, medical Characteristics: Waterproof-breathable Very high MVTR Gloss, smooth or matte surface Soft, quiet, excellent stretch & recovery No processing additives to effect adhesion

| Good Stretchability<br>High Gloss<br>High Molsture Vapor Transmission<br>Low to No Water Absorption<br>SoftSubscription<br>SoftUsesConsumer Applications<br>Footwear<br>Medical/Healthcare ApplicationsSubscription<br>SoftProcessing MethodCasting<br>ExtrusionSubscriptionPhysicalNominal ValueUnitTest MethodSpecific Gravity1.22g/cm³ASTM D792Promer HardnessNominal ValueUnitTest MethodDurometer HardnessNominal ValueUnitTest MethodDurometer HardnessNominal ValueUnitTest MethodFilmsNominal ValueUnitTest MethodMarcer Vapor Transmission 1Casting<br>ExtrusionMethodTest MethodGater Vapor Transmission 1Casting<br>ExtrusionMethodTest MethodCastingNominal ValueUnitTest MethodGater Vapor Transmission 1Goto 800g/m²/24 krSet 500-n 2Nominal ValueUnitTest Method-n 3Nominal ValueUnitTest Method-n 3Nominal ValueUnitTest MethodElastomersNominal ValueUnitTest MethodTest Set (200% Strain)< 40%PaASTM D122  | General Information                   |                                |            |             |
|--|---------------------------------------|--------------------------------|------------|-------------|
| High Gloss<br>High Moisture Vapor Transmission<br>Low to No Water Absorption<br>SotSummer Applications<br>Footwear<br>Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionCasting<br>ExtrusionPhysicalNominal ValueUnitTest MethodSpecific Gravity1.22gccm <sup>3</sup> ASTM D792Promer Hardness (Shore A)0UnitTest MethodDurometer Hardness (Shore A)0UnitTest MethodFilmaNominal ValueUnitTest MethodDurometer Hardness (Shore A)0UnitTest MethodFilmaNominal ValueUnitTest MethodMetro Appor Transmission 1Von 10 and MalueMethod-1 - 270 to 800g/m²/24 hrSTM D2240 380 to 900g/m²/24 hrSTM D260 3Nominal ValueUnitTest Method 380 to 900g/m²/24 hrSTM D260 3Nominal ValueUnitTest Method 380 to 900g/m²/24 hrStm D212 3Nominal ValueUnitTest Method 3Nominal ValueManuASTM D224 3Nominal ValueManuManu 3Nominal ValueManuManu 3Nominal ValueManuASTM D224 3Nominal ValueManuManu 3Nominal ValueManuManu 3Nominal ValueManuManu 3Nominal ValueM   | Features                              | Breathable                     |            |             |
| High Moisture Vapor Transmission<br>Low to No Water Absorption<br>SoftUsesConsumer Applications<br>Footwear<br>Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionProcessing MethodCasting<br>ExtrusionPhysicalNominal ValueVominal ValueUnitDurometer HardnessNominal ValueNominal ValueUnitDurometer Hardness (Shore A)80ItimeNominal ValueVominal ValueUnitDurometer Hardness (Shore A)80ItimeNominal ValueVater Appor Transmission 1 270 to 800- 270 to 800- 380 to 900- 380 to 900- 3Nominal ValueItimesNominal ValueItimesNominal Value- 270 to 800- 380 to 900- 380 to 900- 3Nominal ValueItimesNominal ValueItimesNominal Value- 3Sitt Dirit- 3Sitt Dirit- 3Nominal Value- 4Nominal Value- 3Nominal Value<  |                                       | Good Stretchability            |            |             |
| Low to No Water Absorption<br>SoftUsesConsumer Applications<br>Footwear<br>Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionProcessing MethodCasting<br>ExtrusionPhysicalNominal ValueUnit Consumer MethodSpecific Gravity1.2OrdASTM D722Prometer Hardness (Shore A)80Unit Consumer MethodDurometer Hardness (Shore A)80Unit Consumer MethodFilmNominal ValueUnit Consumer MethodMurant U = Urity Optimizations 1Stat D2240- r - 2Oto 800Jord? Life- r - 3Goto 800Jord? Life- r - 3Oto 800Jord? Life- r - 3Oto 800Jord? Life- r - 3Stot 500Monial Value- r - 3Oto 800Jord? Life- r - 3Stot 500Monial Value- r - 3Oto 800Jord? Life- r - 3Stot 500Monial Value- Stot 500Strot 500Monial Value- Sto |                                       | High Gloss                     |            |             |
| SoftUsesConsumer Applications<br>Footwear<br>Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionProcessing MethodCasting<br>ExtrusionPhysicalNominal ValueUnitProdecingJ22ProdecingMominal ValueUnitDurometer Hardness (Shore A)0UnitBirdNominal ValueUnitDurometer Hardness (Shore A)0STM D2240FilmsNominal ValueUnitMater Vapor Transmission 1Test Method2700 to 800g/m²/24 hr3800 to 900g/m²/24 hr3800 to 900g/m²/24 hrElastomersMominal ValueUnitElastomers40%aMoninal ValueMonitTest MethodTensile Set (200% Strain)40%aStore Strain(Strain)3.80 to 4.50MPa  |                                       | High Moisture Vapor Transmis   | sion       |             |
| UsesConsumer Applications<br>Footwear<br>Medical/Healthcare ApplicationsFootwear<br>Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionStressPhysicalNominal ValueUnitTest MethodSpecific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80Test MethodFilmsNominal ValueUnitTest MethodQuerer Vapor Transmission 1Test MethodMethod2700 to 800g/m²/24 hrSTM E962700 to 800g/m²/24 hrTest Method3800 to 900g/m²/24 hrSTM E96ElastomersNominal ValueUnitTest MethodElastomersNominal ValueUnitTest MethodEnsile Set (200% Strain)< 40   |                                       | Low to No Water Absorption     |            |             |
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| Footwar<br>Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionPhysicalNominal ValueNominal ValueUnitSpecific Gravity1.22Nominal ValueUnitDurometer Hardness (Shore A)80FilmsNominal ValueNominal ValueUnitMunital ValueUnitDurometer Hardness (Shore A)80- 2Nominal ValueMunital ValueUnitMuter Vapor Transmission 1Test Method2701 to 8002701 to 8003800 to 9003100 to 8003100 to 8003 <t< td=""><td></td><td></td><td></td><td></td></t<>  |                                       |                                |            |             |
| Medical/Healthcare ApplicationsProcessing MethodCasting<br>ExtrusionPhysicalNominal ValuePhysicalNominal ValueSpecific Gravity1.22HardnessNominal ValueNominal ValueUnitDurometer Hardness (Shore A)80IsraNominal ValueMunial ValueUnitDurometer Hardness (Shore A)80IsraNominal ValueMunial ValueUnitMuter Vapor Transmission 1STM D22402700 to 800-2700 to 800-2700 to 800-3800 to 9009m²/24 hrElastomersNominal ValueFinale Set (200% Strain)<40  | Uses                                  | Consumer Applications          |            |             |
| Processing MethodCasting<br>ExtrusionPhysicalNominal ValueUnitTest MethodSpecific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80Test MethodBurometer Hardness (Shore A)80Test MethodFilmsNominal ValueUnitTest MethodQuere Vapor Transmission 1Tot 0 to 800g/m²/24 hr 2700 to 800g/m²/24 hr 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodTensile Set (200% Strain)< 40  |                                       | Footwear                       |            |             |
| ExtrusionPhysicalNominal ValueUnitTest MethodSpecific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80XTM D2240FilmsNominal ValueUnitTest MethodVater Vapor Transmission 1YASTM D2640- 270 to 800g/m²/24 hr- 380 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodElastomersNominal ValueUnitTest MethodTesile Set (200% Strain)<40  |                                       | Medical/Healthcare Application | 15         |             |
| ExtrusionPhysicalNominal ValueUnitTest MethodSpecific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80XTM D2240FilmsNominal ValueUnitTest MethodVater Vapor Transmission 1YASTM D2240- 270 to 800g/m²/24 hr- 380 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodElastomersNominal ValueUnitTest MethodTesile Set (200% Strain)<40  |                                       |                                |            |             |
| PhysicalNominal ValueUnitTest MethodSpecific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80STM D2240FilmsNominal ValueUnitTest MethodVater Vapor Transmission 1Sto 800g/m²/24 hr- 2700 to 800g/m²/24 hr- 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodTest Method9/m²/24 hrSto 900ElastomersNominal ValueUnitTest MethodTensile Set (200% Strain)<40  | Processing Method                     | Casting                        |            |             |
| Specific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80ASTM D2240FilmsNominal ValueUnitTest MethodWater Vapor Transmission 1For to 800g/m²/24 hr 2700 to 800g/m²/24 hr 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTensile Set (200% Strain)< 40  |                                       | Extrusion                      |            |             |
| Specific Gravity1.22g/cm³ASTM D792HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80ASTM D2240FilmsNominal ValueUnitTest MethodWater Vapor Transmission 1For to 800g/m²/24 hr 2700 to 800g/m²/24 hr 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTensile Set (200% Strain)< 40  |                                       |                                |            |             |
| HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)80ASTM D2240FilmsNominal ValueUnitTest MethodWater Vapor Transmission 1Test MethodASTM E96 2700 to 800g/m²/24 hr 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodTensile Set (200% Strain)< 40  | Physical                              | Nominal Value                  | Unit       | Test Method |
| Durometer Hardness (Shore A)80ASTM D2240FilmsNominal ValueUnitTest MethodWater Vapor Transmission 12700 to 800g/m²/24 hr3800 to 900g/m²/24 hr2ElastomersNominal ValueUnitTest MethodTensile Set (200% Strain)< 40  | Specific Gravity                      | 1.22                           | g/cm³      | ASTM D792   |
| FilmsNominal ValueUnitTest MethodWater Vapor Transmission 1ASTM E96 2700 to 800g/m²/24 hr 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTensile Set (200% Strain)< 40  | Hardness                              | Nominal Value                  | Unit       | Test Method |
| Water Vapor Transmission 1ASTM E96 2700 to 800g/m²/24 hr 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodTensile Set (200% Strain)< 40  | Durometer Hardness (Shore A)          | 80                             |            | ASTM D2240  |
| <sup>2</sup> 700 to 800     g/m²/24 hr <sup>3</sup> 800 to 900     g/m²/24 hr       Elastomers     Nominal Value     Unit     Test Method       Tensile Set (200% Strain)     < 40   | Films                                 | Nominal Value                  | Unit       | Test Method |
| 3800 to 900g/m²/24 hrElastomersNominal ValueUnitTest MethodTensile Set (200% Strain)< 40   | Water Vapor Transmission <sup>1</sup> |                                |            | ASTM E96    |
| Elastomers Nominal Value Unit Test Method   Tensile Set (200% Strain) < 40   | <sup>2</sup>                          | 700 to 800                     | g/m²/24 hr |             |
| Tensile Set (200% Strain)< 40%ASTM D412Tensile Stress (100% Strain)3.80 to 4.50MPaASTM D412  | 3                                     | 800 to 900                     | g/m²/24 hr |             |
| Tensile Stress (100% Strain) 3.80 to 4.50 MPa ASTM D412  | Elastomers                            | Nominal Value                  | Unit       | Test Method |
|  | Tensile Set (200% Strain)             | < 40                           | %          | ASTM D412   |
| Tensile Strength 27.6 to 34.5 MPa ASTM D/12  | Tensile Stress (100% Strain)          | 3.80 to 4.50                   | MPa        | ASTM D412   |
|  | Tensile Strength                      | 27.6 to 34.5                   | MPa        | ASTM D412   |
| Tensile Elongation (Break) 600 to 700 % ASTM D412  | Tensile Elongation (Break)            | 600 to 700                     | %          | ASTM D412   |
| NOTE   | NOTE                                  |                                |            |             |

| 1. | Procedure B                                |
|----|--|
| 2. | upright, (23°C) at 50% RH, (25<br>microns) |
| 3. | upright, (23°C) at 50% RH, (15<br>microns) |

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