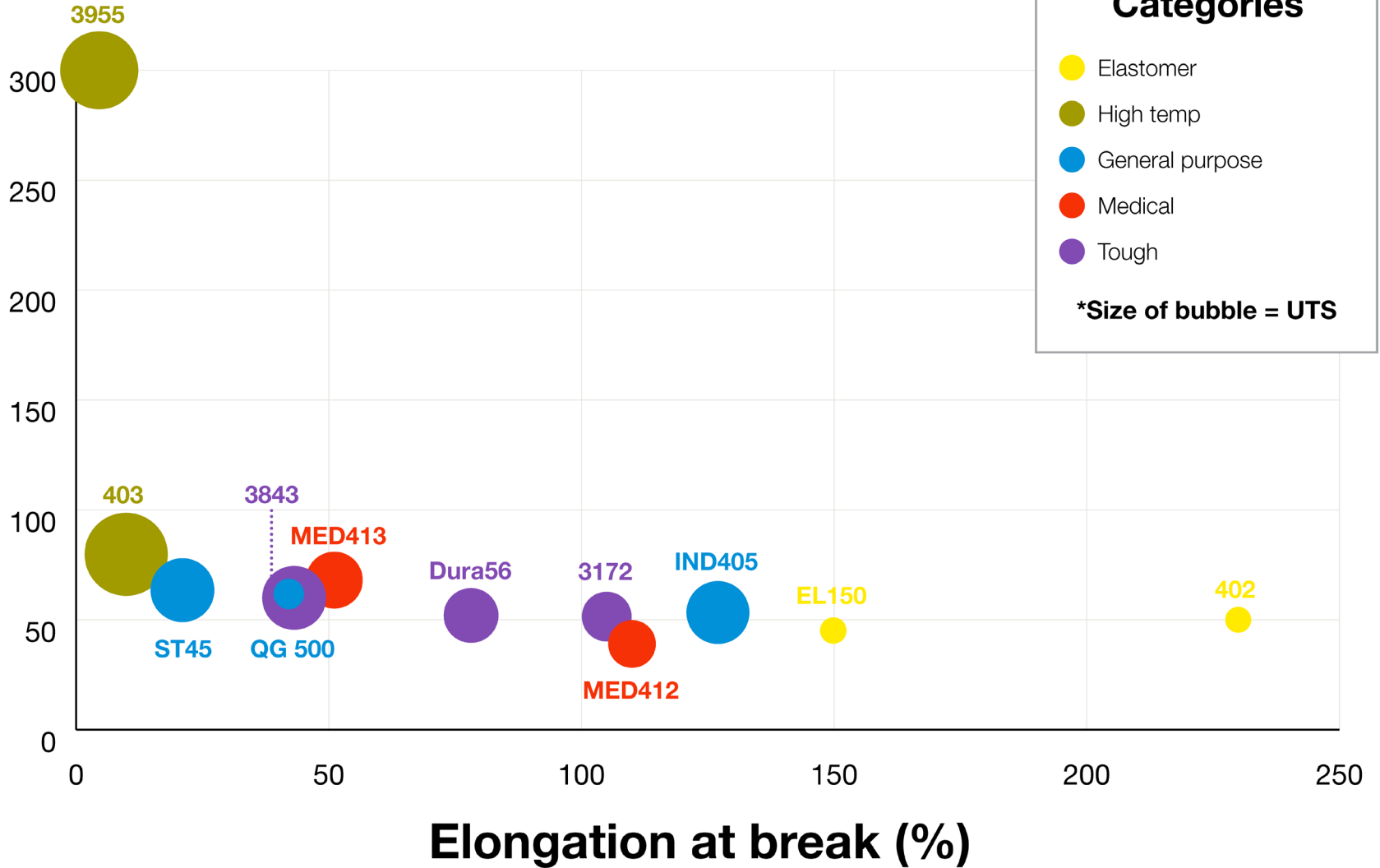


Origin® One Featured Materials Overview



HDT @ 0.455 MPa



Origin® One Featured Materials Overview

| Material name | Description | Categories | Ultimate tensile strength | Elongation at break | Tensile modulus | HDT | Notched izod impact | Hardness | Colors | Consider replacing | Partner page |
|---------------------|--|------------|---------------------------|---------------------|-----------------|--------------------|---------------------|-------------|---------------------|--|---------------------------------|
| 3955 | Very high temperature, high stiffness FST | ● | 67 MPa | 2.10% | 3556 MPa | > 300° C | 23 J/m | 84 D | Black | Ultem, phenolic, PBT, aluminum | LOCTITE AM |
| 403 | High strength, stiffness, and good HDT | ● | 72 MPa | 10% | 2572 MPa | 80° C | 27 J/m | 81 D | Black | Nylon 6/6 | LOCTITE AM |
| 3843 | Versatile, good all-around engineering polymer | ● | 53 MPa | 43% | 1806 MPa | 60° C | 53 J/m | 74 D | Black, Clear, White | ABS, delrin, polypropylene | LOCTITE AM |
| Dura56 | Durable, impact-resistant, exceptional surface finish, low cost per kg | ● | 44 MPa | 78% | 1595 MPa | 52° C | 56 J/m | 72 D | Black | ABS, delrin, polypropylene | TDS |
| 3172 | Moderately flexible, ductile, great impact strength | ● | 39 MPa | 105% | 1494 MPa | 51° C | 73 J/m | 72 D | Cyan, Grey | Impact modified polypropylene, nylon 6, HDPE | LOCTITE AM |
| IND405 | Clear, moderately flexible, ductile, great impact strength | ● | 52 MPa | 127% | 1378 MPa | 53° C | 72 J/m | 79 D | Clear | Impact modified polypropylene, nylon 6, HDPE | LOCTITE AM |
| ST45 | Versatile, good all-around engineering polymer | ● | 53 MPa | 21% | 2000 MPa | 63° C | 20 J/m | 81 D | Black, Clear | ABS, delrin | BASF Forward AM |
| QG 500 | Uniquely flexible engineering material with great impact strength | ● | 20 MPa | 42% | 465 MPa | 62° C (Tg) | 70 J/m | 76 D | Clear | LDPE | DSM Somos |
| 402 | TPU-like elastomer with good tear strength and elongation at break | ● | 5.5 MPa | 230% | 42 MPa | Not applicable | Not applicable | 75-90 A | Black | 70-90 A TPU, flexible foam | LOCTITE AM |
| EL150 (Coming soon) | Soft TPU-like elastomer | ● | 6 MPa | 150% | 25 MPa | Not applicable | Not applicable | 70-80 A | Clear | 70-80 A TPU, flexible foam | BASF Forward AM |
| MED412 | Moderately flexible, ductile, great impact strength | ● | 37 MPa | 110% | 1305 MPa | 39° C | 50 J/m | 78 D | Clear | Medical-grade polypropylene | TDS |
| MED413 | Versatile engineering medical grade material | ● | 46 MPa | 51% | 1673 MPa | 68° C | 59 J/m | 79 D | Clear, White | Medical-grade ABS | TDS |

*Bold blue values = Highest value in it's category. Material categories: ●Elastomer ●High temp ●General purpose ●Medical ●Tough

Origin® One Advanced Materials Comparison

| Material name | Temperature resistance | Flame resistance | Chemical resistance | UV stability | Dielectric strength | Low water absorption | Strength | Stiffness | Toughness | Biocompatibility testing | Print speed | Material cost |
|------------------------|------------------------|------------------|---------------------|--------------|---------------------|----------------------|----------|-----------|----------------|---------------------------------|-------------|---------------|
| 3955 | Strong | Strong | Refer to data sheet | Good | Strong | – | Strong | Strong | Low | – | Strong | \$\$\$ |
| 403 | Strong | – | – | Good | Strong | – | Strong | Strong | Low | – | Good | \$\$ |
| 3843 | Good | – | Refer to data sheet | Good | Strong | Good | Good | Good | Good | Cyto, irritation | Good | \$\$ |
| Dura56 | Low | – | – | Good | – | Low | Good | Good | Strong | – | Good | \$ |
| 3172 | Low | – | – | Good | – | Good | Good | Good | Strong | Cyto, irritation | Good | \$\$ |
| IND405 | Low | – | – | Good | – | Good | Good | Good | Strong | Cyto, irritation | Good | \$\$ |
| ST45 | Good | Good | – | Good | Strong | – | Good | Strong | Low | Cyto, irritation, sensitization | Strong | \$ |
| QG 500 | Good | – | – | Good | – | Strong | Low | Low | Strong | – | Strong | \$\$ |
| 402 | Not applicable | – | Refer to data sheet | Good | – | Low | Low | Low | Not applicable | Irritation | Low | \$\$ |
| EL150 (Coming soon) | Not applicable | – | – | Good | – | – | Low | Low | Not applicable | Cyto | Strong | \$\$\$ |
| MED412 | Low | – | – | Good | – | Strong | Good | Good | Good | Cyto, irritation, sensitization | Good | \$\$\$ |
| MED413 | Good | – | – | Good | – | Low | Good | Good | Strong | Cyto, irritation, sensitization | Good | \$\$\$ |

*– = Data unavailable

Note: This guide should be used to compare Origin certified materials with each other. Please refer to individual material data sheets for more info.