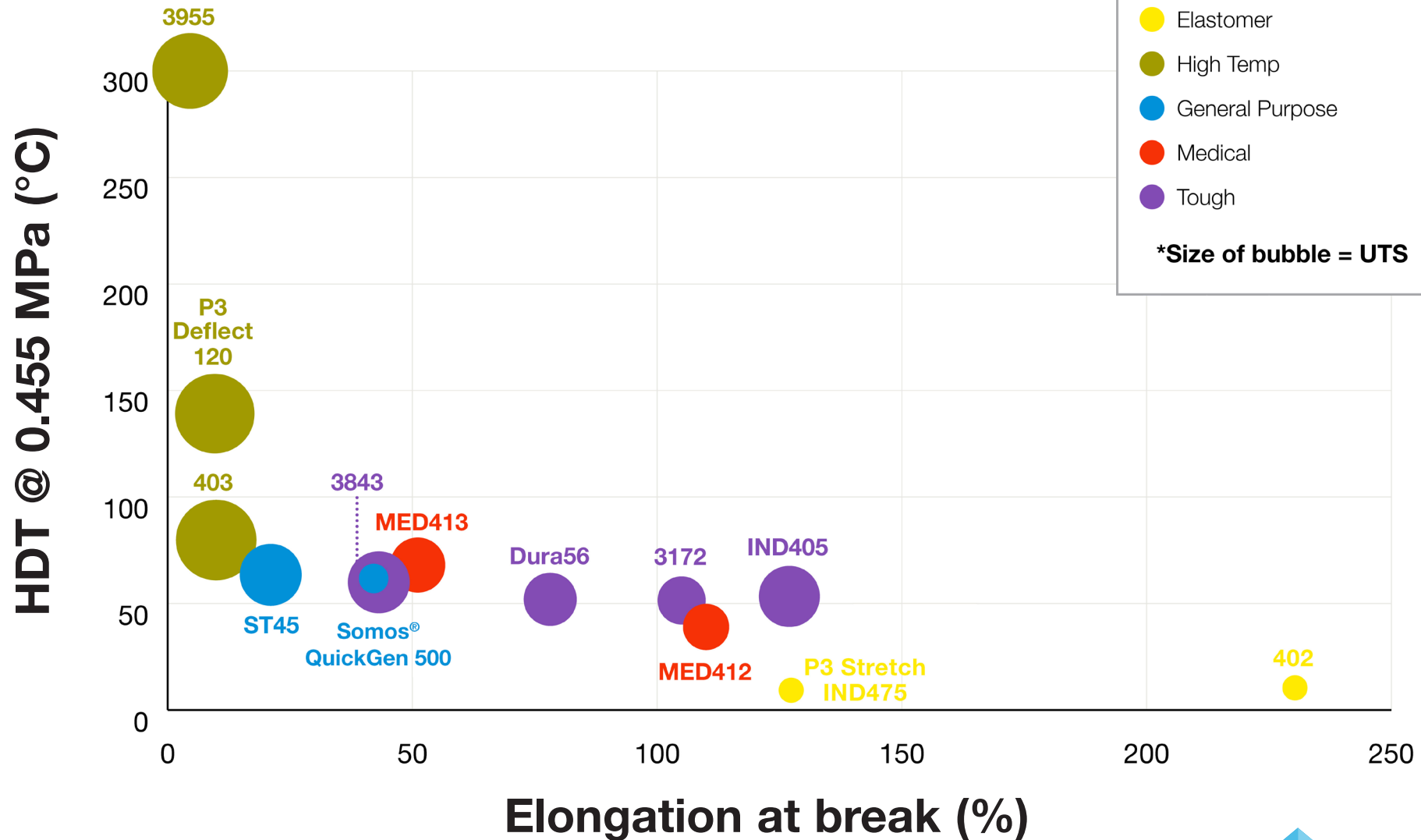


# Origin<sup>®</sup> One Validated Materials Overview



## Origin® One Validated Materials Overview

Material name	Description	Categories	Ultimate tensile strength	Elongation at break	Tensile modulus	HDT	Notched izod impact	Hardness	Colors	Consider replacing	Partner page
<b>3955</b>	Very high temperature, high stiffness FST	●	67 MPa	2.10%	<b>3556 MPa</b>	<b>&gt; 300 °C</b>	23 J/m	84 D	Black	Ultem, phenolic, PBT, aluminum	<a href="#">LOCTITE AM</a>
<b>P3 Deflect 120</b>	High temperature resistance and rigid material with good elongation at break	●	<b>100 MPa</b>	4%	3000 MPa	121 °C	15 J/m	<b>88 D</b>	Black	Nylon 6, PBT	<a href="#">EVONIK</a>
<b>403</b>	High strength, stiffness, and good HDT	●	72 MPa	10%	2572 MPa	80 °C	27 J/m	81 D	Black	Nylon 6/6	<a href="#">LOCTITE AM</a>
<b>3843</b>	Versatile, good all-around engineering polymer	●	53 MPa	43%	1806 MPa	60 °C	53 J/m	74 D	Black, Clear, White	ABS, delrin, polypropylene	<a href="#">LOCTITE AM</a>
<b>Dura56</b>	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	<a href="#">TDS</a>
<b>3172</b>	Moderately flexible, ductile, great impact strength	●	39 MPa	105%	1494 MPa	51 °C	<b>73 J/m</b>	72 D	Cyan, Grey	Impact modified polypropylene, nylon 6, HDPE	<a href="#">LOCTITE AM</a>
<b>IND405</b>	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	<a href="#">LOCTITE AM</a>
<b>ST45</b>	Versatile, good all-around engineering polymer	●	53 MPa	21%	2000 MPa	63 °C	20 J/m	81 D	Black, Clear	ABS, delrin	<a href="#">BASF Forward AM</a>
<b>Somos QuickGen 500</b>	Uniquely flexible engineering material with great impact strength	●	20 MPa	42%	465 MPa	62 °C (Tg)	70 J/m	76 D	Clear	LDPE	
<b>402</b>	TPU-like elastomer with good tear strength and elongation at break	●	5.5 MPa	<b>230%</b>	42 MPa	--	--	75-90 A	Black	70-90 A TPU, flexible foam	<a href="#">LOCTITE AM</a>
<b>P3 Stretch 475</b>	Resilient, low shore hardness elastomer with good tear strength	●	2.4 MPa	122%	2.5 MPa	--	--	49 A, 45 A (0s, 5s)	Black	Low durometer TPU	<a href="#">LOCTITE AM</a>
<b>MED412</b>	Moderately flexible, ductile, great impact strength	●	37 MPa	110%	1305 MPa	39 °C	50 J/m	78 D	Clear	Medical-grade polypropylene	<a href="#">LOCTITE AM</a>
<b>MED413</b>	Versatile engineering medical grade material	●	46 MPa	51%	1673 MPa	68 °C	59 J/m	79 D	Clear, White	Medical-grade ABS	<a href="#">LOCTITE AM</a>

\*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	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	–	–	Refer to data sheet	Good	–	Low	Low	Low	–	Irritation	Low	\$\$
MED412	Low	–	–	Good	–	Strong	Good	Good	Good	Cyto, irritation, sensitization	Good	\$\$\$
MED413	Good	–	–	Good	–	Low	Good	Good	Strong	Cyto, irritation, sensitization	Good	\$\$\$
P3 Deflect 120	Strong	TBD	TBD	TBD	TBD	Strong	Strong	Strong	Low	TBD	Strong	\$\$
P3 Stretch 475	–	–	TBD	TBD	Strong	Low	Low	Low	–	TBD	Strong	\$\$

\*– = 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.