

Materials Simulating Engineering Plastics

Digital ABS, Green (RGD5160-DM, RGD5161-DM) made of RGD515 & RGD535
 Digital ABS, Ivory (RGD5130-DM, RGD5131-DM) made of RGD515 & RGD531

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	55-60	psi	8000-8700
Elongation at break	D-638-05	%	25-40	%	25-40
Modulus of elasticity	D-638-04	MPa	2600-3000	psi	375,000-435,000
Flexural Strength	D-790-03	MPa	65-75	psi	9,500-11,000
Flexural Modulus	D-790-04	MPa	1700-2200	psi	245,000-320,000
HDT, °C @ 0.45MPa	D-648-06	°C	58-68	°F	136-154
HDT, °C @ 0.45MPa after thermal post treatment procedure A	D-648-06	°C	82-90	°F	180-194
HDT, °C @ 0.45MPa after thermal post treatment procedure B	D-648-06	°C	92-95	°F	198-203
HDT, °C @ 1.82MPa	D-648-07	°C	51-55	°F	124-131
Izod Notched Impact	D-256-06	J/m	65-80	ft lb/inch	1.22-1.50
Tg	DMA, E»	°C	47-53	°F	117-127
Shore Hardness (D)	Scale D	Scale D	85-87	Scale D	85-87
Rockwell Hardness	Scale M	Scale M	67-69	Scale M	67-69
Polymerized density	ASTM D792	g/cm3	1.17-1.18		

High Temperature Material (RGD525)

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	70-80	psi	10,000-11,500
Elongation at break	D-638-05	%	10-15	%	10-15
Modulus of elasticity	D-638-04	MPa	3200-3500	psi	465,000-510,000
Flexural Strength	D-790-03	MPa	110-130	psi	16,000-19,000
Flexural Modulus	D-790-04	MPa	3100-3500	psi	450,000-510,000
HDT, °C @ 0.45MPa	D-648-06	°C	63-67	°F	145-163
HDT, °C @ 0.45MPa after thermal post treatment procedure A	D-648-06	°C	75-80	°F	167-176
HDT, °C @ 1.82MPa	D-648-07	°C	55-57	°F	131-135
Izod Notched Impact	D-256-06	J/m	14-16	ft lb/inch	0.262-0.300
Water Absorption, %	D-570-98 24hr	%	1.2-1.4	%	1.2-1.4
Tg	DMA, E»	°C	62-65	°F	144-149
Shore Hardness D	Scale D	Scale D	87-88	Scale D	87-88
Rockwell Hardness	Scale M	Scale M	78-83	Scale M	78-83
Polymerized density	ASTM D792	g/cm3	1.17-1.18		
Ash content	USP281	%	0.38-0.42	%	0.38-0.42

Materials Simulating Standard Plastics

Transparent Materials

RGD720

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	50-65	psi	7250-9450
Elongation at break	D-638-05	%	15-25	%	15-25
Modulus of elasticity	D-638-04	MPa	2000-3000	psi	290,000-435,000
Flexural Strength	D-790-03	MPa	80-110	psi	12000-16000
Flexural Modulus	D-790-04	MPa	2700-3300	psi	390,000-480,000
HDT, °C @ 0.45MPa	D-648-06	°C	45-50	°F	113-122
HDT, °C @ 1.82MPa	D-648-07	°C	45-50	°F	113-122
Izod Notched Impact	D-256-06	J/m	20-30	ft lb/inch	0.375-0.562
Water Absorption	D-570-98 24hr	%	1.5-2.2	%	1.5-2.2
Tg	DMA, E»	°C	48-50	°F	118-122
Shore Hardness (D)	Scale D	Scale D	83-86	Scale D	83-86
Rockwell Hardness	Scale M	Scale M	73-76	Scale M	73-76
Polymerized density	ASTM D792	g/cm3	1.18-1.19		
Ash content	USP281	%	0.01-0.02	%	0.01-0.02

VeroClear RGD810

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	50-65	psi	7250-9450
Elongation at break	D-638-05	%	10-25	%	10-25
Modulus of elasticity	D-638-04	MPa	2000-3000	psi	290,000-435,000
Flexural Strength	D-790-03	MPa	75-110	psi	11000-16000
Flexural Modulus	D-790-04	MPa	2200-3200	psi	320,000-465,000
HDT, °C @ 0.45MPa	D-648-06	°C	45-50	°F	113-122
HDT, °C @ 1.82MPa	D-648-07	°C	45-50	°F	113-122
Izod Notched Impact	D-256-06	J/m	20-30	ft lb/inch	0.375-0.562
Water Absorption	D-570-98 24hr	%	1.1-1.5	%	1.1-1.5
Tg	DMA, E»	°C	52-54	°F	126-129
Shore Hardness (D)	Scale D	Scale D	83-86	Scale D	83-86
Rockwell Hardness	Scale M	Scale M	73-76	Scale M	73-76
Polymerized density	ASTM D792	g/cm3	1.18-1.19		
Ash content	USP281	%	0.02-0.06	%	0.02-0.06

Find material properties for color materials on the Color Digital Materials Data Sheet.

Rigid Opaque Materials

VeroGray RGD850, VeroBlackPlus RGD875, VeroWhitePlus RGD835, VeroYellow RGD836, VeroCyan RGD841, VeroMagenta RGD851

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	50-65	psi	7250-9450
Elongation at break	D-638-05	%	10-25	%	10-25
Modulus of elasticity	D-638-04	MPa	2000-3000	psi	290,000-435,000
Flexural Strength	D-790-03	MPa	75-110	psi	11000-16000
Flexural Modulus	D-790-04	MPa	2200-3200	psi	320,000-465,000
HDT, °C @ 0.45MPa	D-648-06	°C	45-50	°F	113-122
HDT, °C @ 1.82MPa	D-648-07	°C	45-50	°F	113-122
Izod Notched Impact	D-256-06	J/m	20-30	ft lb/inch	0.375-0.562
Water Absorption	D-570-98 24hr	%	1.1-1.5	%	1.1-1.5
Tg	DMA, E»	°C	52-54	°F	126-129
Shore Hardness (D)	Scale D	Scale D	83-86	Scale D	83-86
Rockwell Hardness	Scale M	Scale M	73-76	Scale M	73-76
Polymerized density	ASTM D792	g/cm3	1.17-1.18		
Ash content VeroGray, VeroWhitePlus	USP281	%	0.23-0.26	%	0.23-0.26
Ash content VeroBlackPlus	USP281	%	0.01-0.02	%	0.01-0.02

VeroBlue RGD840

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	50-60	psi	7250-8700
Elongation at break	D-638-05	%	15-25	%	15-25
Modulus of elasticity	D-638-04	MPa	2000-3000	psi	290,000-435,000
Flexural Strength	D-790-03	MPa	60-70	psi	8700-10200
Flexural Modulus	D-790-04	MPa	1900-2500	psi	265,000-365,000
HDT, °C @ 0.45MPa	D-648-06	°C	45-50	°F	113-122
HDT, °C @ 1.82MPa	D-648-07	°C	45-50	°F	113-122
Izod Notched Impact	D-256-06	J/m	20-30	ft lb/inch	0.375-0.562
Water Absorption	D-570-98 24hr	%	1.5-2.2	%	1.5-2.2
Tg	DMA, E»	°C	48-50	°F	118-122
Shore Hardness (D)	Scale D	Scale D	83-86	Scale D	83-86
Rockwell Hardness	Scale M	Scale M	73-76	Scale M	73-76
Polymerized density	ASTM D792	g/cm3	1.18-1.19		
Ash content	USP281	%	0.21-0.22	%	0.21-0.22

Polypropylene-like Materials

DurusWhite RGD430

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	20-30	psi	2900-4350
Elongation at break	D-638-05	%	40-50	%	40-50
Modulus of elasticity	D-638-04	MPa	1000-1200	psi	145,000-175,000
Flexural Strength	D-790-03	MPa	30-40	psi	4350-5800
Flexural Modulus	D-790-04	MPa	1200-1600	psi	175,000-230,000
HDT, °C @ 0.45MPa	D-648-06	°C	37-42	°F	99-108
HDT, °C @ 1.82MPa	D-648-07	°C	32-34	°F	90-93
Izod Notched Impact	D-256-06	J/m	40-50	ft lb/inch	0.749-0.937
Water Absorption	D-570-98 24hr	%	1.5-1.9	%	1.5-1.9
Tg	DMA, E»	°C	35-37	°F	95-99
Shore Hardness (D)	Scale D	Scale D	74-78	Scale D	74-78
Rockwell Hardness	Scale M	Scale M	no data	Scale M	no data
Polymerized density	ASTM D792	g/cm3	1.15-1.17		
Ash content	USP281	%	0.10-0.12	%	0.1-0.12

Endur RGD450

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-638-03	MPa	40-45	psi	5800-6500
Elongation at break	D-638-05	%	20-35	%	20-35
Modulus of elasticity	D-638-04	MPa	1700-2100	psi	246,000 – 305,000
Flexural Strength	D-790-03	MPa	52-59	psi	7500 - 8500
Flexural Modulus	D-790-04	MPa	1500-1700	psi	217,000 – 246,000
HDT, °C @ 0.45MPa	D-648-06	°C	49-54	°F	120-129
HDT, °C @ 1.82MPa	D-648-07	°C	45-50	°F	113-122
Izod Notched Impact	D-256-06	J/m	30-35	ft lb/inch	0.561-0.656
Tg	DMA, E»	°C	48-52	°F	118-126
Shore Hardness (D)	Scale D	Scale D	80-84	Scale D	80-84
Rockwell Hardness	Scale M	Scale M	58-62	Scale M	58-62
Polymerized density	ASTM D792	g/cm3	1.20-1.21		
Ash content	USP281	%	0.3-0.4	%	0.3-0.4

Rubber-like Materials

TangoBlackPlus FLX980 and TangoPlus FLX930

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-412	MPa	0.8-1.5	psi	115-220
Elongation at break	D-412	%	170-220	%	170-220
Compressive set	D-395	%	4-5	%	4-5
Shore Hardness (A)	D-2240	Scale A	26-28	Scale A	26-28
Tensile Tear resistance	D-624	Kg/cm	2-4	Lb/in	18-22
Polymerized density	ASTM D792	g/cm3	1.12-1.13		

TangoBlack FLX973

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-412	MPa	1.8-2.4	psi	115-350
Elongation at break	D-412	%	45-55	%	45-55
Compressive set	D-395	%	0.5-1.5	%	0.5-1.5
Shore Hardness (A)	D-2240	Scale A	60-62	Scale A	60-62
Tensile Tear resistance	D-624	Kg/cm	3-5	Lb/in	18-24
Polymerized density	ASTM D792	g/cm3	1.14-1.15		

TangoGray FLX950

	ASTM	Units	Metric	Units	Imperial
Tensile strength	D-412	MPa	3-5	psi	435-725
Elongation at break	D-412	%	45-55	%	45-55
Compressive set	D-395	%	0.5-1.5	%	0.5-1.5
Shore Hardness (A)	D-2240	Scale A	73-77	Scale A	73-77
Tensile Tear resistance	D-624	Kg/cm	8-12	Lb/in	50-60
Polymerized density	ASTM D792	g/cm3	1.16-1.17		



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