BILL OF MATERIALS: CERA-1 CLAY EXTRUDER

Size		rews: M3	1			
	Lng	Style	Location	Source Cost ea		t Total
4 M3	5mm	Socket Set Screw	Guide Follower	https://www.belmetric.com/3mm-c-563 581 1026 163:	0.1	
8 M3	8mm	Socket Button Head		https://www.belmetric.com/3mm-c-563 581 584 603/s	0.05	
4 M3	8mm	Socket Flat Head	Tube Holder	https://www.belmetric.com/3mm-c-563 581 583 609/s	0.06	0
4 M3	12mm	Allen Socket Head	Auger housing - motor	https://www.belmetric.com/3mm-c-563 581 582 585/t	0.06	0
2 M3	20mm	Allen Socket Head	Tube Holder	https://www.belmetric.com/3mm-c-563 581 582 585/b	0.07	C
4 M3	30mm	Allen Socket Head	Auger housing - stage	https://www.belmetric.com/3mm-c-563 581 582 585/b	0.1	
inless Stee	Machine So	rews: M4				
Size	Lng	Style	Location	Source		
4 M4	5mm	Socket Flat Head	Tube Base	https://www.belmetric.com/4mm-c-563 581 583 610/s	0.1	
4 M4	12mm	Allen Socket Head	Plunger	https://www.belmetric.com/4mm-c-563_581_582_586/b	0.08	(
8 M4	16mm	Allen Socket Head	End Mount		0.08	(
				https://www.belmetric.com/4mm-c-563_581_582_586/b		
2 M4	18mm	Allen Socket Head	End Mount - Stage	https://www.belmetric.com/4mm-c-563_581_582_586/b	0.12	(
10 M4	20mm	Allen Socket Head	Base Mount, Guide Mount		0.11	
2 M4	22mm	Allen Socket Head	End Mount - Stage	https://www.belmetric.com/4mm-c-563_581_582_586/t	0.18	(
inless Stee	Machine So	rews: Other				
Size	Lng	Style	Location	Source		
4 M5	16mm	Allen Socket Head	Nema 23 Worm Gearbox	https://www.belmetric.com/5mm-c-563 581 582 587/t	0.14	
8 M6	20mm	Allen Socket Head	Base Mount, Guide Mount		0.22	
			Base Mount, Guide Mount	https://www.beimetric.com/omm-c-363_361_362_366/t	0.22	-
	Nuts: M3 8					
Size	Hgt	Style	Location	Source		
8 M3	1.8mm	Square, Thin	Stage, Guide Follower	https://www.belmetric.com/square-nut-thin-c-563 578	0.11	(
8 M3	2.4mm	Hex	Tube Holder	https://www.belmetric.com/coarse-thread-c-563 578 6:	0.05	
20 M4	3.5mm	Square	End mount, Base mount	https://www.mcmaster.com/97258a102	0.22	
.0	5.5	Square	End mount, base mount	The party was the master compared to the party was the par	U.LL	
3D Printe	ed / Laser	Cut Components				
File Nar	ne	Material	Location	Source (If applicable)		
1 auger h	nousing.stl	PETG or ABS, 100%			1.52	
1 auger_s		Steel	Auger	https://www.shapeways.com/product/XDJKCNMEJ/cera-	40	
1 auger s				neeps, ,	1.9	
	-	PETG or ABS, 100%				
1 bearing		PETG or ABS, 100%			0.02	
1 screwG	uide_follow	PETG or ABS, 100%	i Screw Guide		0.11	(
1 screwG	uide_mount	A PETG or ABS, 20% in	n Screw Guide		1.4	
1 screwG	uide mount	B.PETG or ABS, 20% in	Screw Guide		0.86	
		PETG or ABS, 100%			4.96	
					1.58	
		PETG or ABS, 100%				
1 tubeHo		PETG or ABS, 100%			0.5	
1 tubeHo	lderB.stl	PETG or ABS, 100%	i Ram		0.5	
1 wormG	ear_nut_cou	pSteel	Ram	https://www.shapeways.com/product/TWY3GB4AK/cera	46	
1 plunger	stl	PETG or ABS, 100%	i Plunger		2.36	
1 gasket		Nitrile Rubber	Auger	https://www.faucetdepot.com/prod/Lasco-02-1048E-Rul	1.54	
		MICHIE MUDDEI	Augei			
		Missile Dukhes	Access			
1 gasket_ 2 tubeHo	B.dxf lder_grip.dx	Nitrile Rubber Nitrile Rubber Onents / Hardware	Auger Tube Holder			
1 gasket_ 2 tubeHo	B.dxf lder_grip.dx	Nitrile Rubber	Tube Holder	Source		
1 gasket_ 2 tubeHo Mechan inless Stee	B.dxf der_grip.dx I Ball Bearin	Nitrile Rubber Onents / Hardware	Tube Holder	Source https://bearingsdirect.com/ball-bearings/metric-sizes-bal	6.69	
1 gasket_ 2 tubeHo Mechan inless Stee ID 1 16mm	B.dxf Ider_grip.dx ical Compe I Ball Bearin OD 35mm	f Nitrile Rubber onents / Hardward ES Height 11mm	Tube Holder Location Tube Base Mount	https://bearingsdirect.com/ball-bearings/metric-sizes-bal		
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1 gasket_ 2 tubeHo 1 Mechan inless Stee 1 ID 1 16mm 1 1/4in inless Stee	B.dxf Ider_grip.dx ical Compo I Ball Bearin OD 35mm 3/4in	f Nitrile Rubber onents / Hardward ES Height 11mm	Tube Holder Location Tube Base Mount	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4648k13	6.69	
1 gasket_ 2 tubeHo Mechan inless Stee ID 1 16mm 1 1/4in inless Stee	B.dxf Ider_grip.dx ical Competer Ball Bearin OD 35mm 3/4in LWasher	Nitrile Rubber Onents / Hardware SS Height 11mm 9/32in	Tube Holder Location Tube Base Mount Auger	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4648k13	6.69	1
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1 gasket 2 tubeHo 1 Mechan inless Stee 1 D 1 16mm 1 1/4in inless Stee 1 D 1 6.4mm 1 16mm 1 16mm 1 16mm 1 15mm	B.dxf Ider_grip.dx ical Compr I Ball Bearin OD 35mm 3/4in I Washer OD 11mm 30mm I T10 Trapez Lng 700mm	nents / Hardwari Height 1.6mm 3mm 3mm 9/3tin Height 2.6mm 3mm 3mm 3mm 4.5mm 3mm 3mm 3mm 4.5mm 3mm 4.5mm	Tube Holder Location Tube Base Mount Auger Location Auger Tube Base Mount Location Ram	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4648k13 Source https://www.belmetric.com/small-outer-diameter-c-4_34 https://www.belmetric.com/standard-outer-diameter-c-4 Source https://www.aliexpress.com/item/32583087650.html	6.69 18.14 0.12 0.3	1
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1 gasket_2 tubeHo Mechan nless Stee ID 1 16mm 1 1/4in nless Stee ID 1 6.4mm 1 16mm nless Stee Size 1 T10 ss T10 Train	B.dxf Ider_grip.dx ical Compr I Ball Bearin OD 35mm 3/4in I Washer OD 11mm 30mm I T10 Trapez Lng 700mm	nents / Hardwari Height 1.6mm 3mm 3mm 9/3tin Height 2.6mm 3mm 3mm 3mm 4.5mm 3mm 3mm 3mm 4.5mm 3mm 4.5mm	Tube Holder Location Tube Base Mount Auger Location Auger Tube Base Mount Location Ram	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4648k13 Source https://www.belmetric.com/small-outer-diameter-c-4_34 https://www.belmetric.com/standard-outer-diameter-c-4 Source https://www.aliexpress.com/item/32583087650.html	6.69 18.14 0.12 0.3	1
1 gasket_2 tubeHo Mechan nless Stee ID 1 16mm 1 1/4in nless Stee ID 1 6.4mm 1 16mm 1 15mm 1 15mm 1 15mm 1 15mm 1 1710 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B.dxf ider_grip.dx ical Compr Ball Bearin OD 35mm 3/4in I Washer OD 11mm 30mm I T10 Trapez Lng 700mm pezoidal Lea	Nitrile Rubber Denents / Hardward State Height 1.6mm 3mm 1.6mm 3mm 1.6md 3mm 1.6md 3mm 2mm 3de Screw 2mm 3de Screw 3de Nut 3de Screw 3de Nut 3de Screw 3de Screw	Tube Holder Location Tube Base Mount Auger Location Auger Tube Base Mount Location Ram Location	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4648k13 Source https://www.belmetric.com/small-outer-diameter-c-4_3/ https://www.belmetric.com/standard-outer-diameter-c-4_5/ Source https://www.aliexpress.com/item/32583087650.html Source	6.69 18.14 0.12 0.3	1
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1 gasket_2 tubeHo 1 Mechan inless Stee	B.dxf ider_grip.dx ical Comprise Ball Bearin OD 35mm 3/4in LWasher OD 11mm 30mm 1T10 Trapez Lng 700mm pezoidal Lea uare Tubing Wall 1/16 in or Coupling	See Nitrile Rubber Sonents / Hardward See Height 1.6mm 9/32in Height 1.6mm 3mm Height 1.6mm 2mm, 2mm 4 Serew Nut Pitch, lead 2mm, 2mm Lug 550mm	Tube Holder Location Tube Base Mount Auger Location Auger Tube Base Mount Location Ram Location Ram, Plunger Location Screw Guide	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4648k13 Source https://www.belmetric.com/small-outer-diameter-c-4_3: https://www.belmetric.com/standard-outer-diameter-c-2 Source https://www.aliexpress.com/item/32583087650.html Source https://www.aliexpress.com/item/4000007745245.html? Source https://www.homedepot.com/p/Everbilt-1-in-x-96-in-Alu	6.69 18.14 0.12 0.3 40	11
1 gasket_2 tubeHo Mechan inless Stee ID 1 16mm 1 1/4in inless Stee ID 1 6.4mm 1 16mm inless Stee 1 T10 ss T10 Traj Size 2 T10 minum Sqi Size 1 Tin ma 17 Mot	B.dxf ider_grip.dx ical Comprible Ball Bearin OD 35mm 3/4in IWasher OD 11mm 30mm 1110 Trapez Lng 700mm pezoidal Lea uare Tubing Wall 1/16 in	Nitrile Rubber onents / Hardware Set Height Height 1.6mm 1.6mm Pitch, lead 2mm, 2mm Lind Screw Pitch, lead 2mm, 2mm Lind Screw Pitch, lead 2mm, 2mm Lind Screw	Location Tube Base Mount Auger Location Tube Base Mount Auger Location Auger Location Ram Location Ram, Plunger Location	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4548k13 Source https://www.belmetric.com/small-outer-diameter-c-4_3/ehttps://www.belmetric.com/standard-outer-diameter-c-4 Source https://www.aliexpress.com/item/32583087650.html Source https://www.aliexpress.com/item/4000007745245.html? Source https://www.aliexpress.com/item/4000007745245.html? Source https://www.homedepot.com/p/Everbilt-1-in-x-96-in-Alu Source	6.69 18.14 0.12 0.3 40	11
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1 gasket_2 tubeHo 1 Mechan inless Stee ID 1 16mm 1 1/4in inless Stee ID 1 6.4mm 1 16mm inless Stee ID 2 1710 ID 3 Size 2 1710 ID 3 Size 1 1 In ID 4 1 6.35mm ID 4 1 6.35mm ID 4 Toggle Length	B.dxf ider_grip.dx ical Compute Ball Bearin OD 35mm 3/4in Washer OD 11mm 30mm 1710 Trapez Lng 700mm pezoidal Lea wall 1/16 in or Coupling Size B 10mm	Nitrile Rubber Denents / Hardware Height 1.6mm Height 1.6mm Mindel Lead Screw Pitch, lead Zmm, Zmm Log Somm Log Diameter 20mm Brand	Tube Holder Location Tube Base Mount Auger Location Auger Auger Auger Location Ram Location Ram, Plunger Location Screw Guide Location Auger Location	https://bearingsdirect.com/ball-bearings/metric-sizes-bal https://www.mcmaster.com/4548k13 Source https://www.belmetric.com/standard-outer-diameter-c-4_3/e https://www.belmetric.com/standard-outer-diameter-c-4 Source https://www.aliexpress.com/item/32583087650.html Source https://www.aliexpress.com/item/4000007745245.html? Source https://www.homedepot.com/p/Everbilt-1-in-x-96-in-Alu Source https://www.homedepot.com/p/Everbilt-1-in-x-96-in-Alu Source https://www.aliexpress.com/item/32913158582.html?sp Source	6.69 18.14 0.12 0.3 40 4.99 20.48	11
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