

Operator : ASML

Release : 5.1.0

Date : 04/11/2024

Time : 19:22

Report Filename : EMZC.39

Report Path : TM/MetrologyCalibration/InitXYplane/EMZC.log/

Machine Type : XT1900GI

Testname : Ilias Lens Set-up
 Start Time : Mon, 04 Nov 2024 18:20:18 490256us +0800
 Stop Time : Mon, 04 Nov 2024 19:15:38 943723us +0800
 Execution Time : 00:55:20
 Test Run Result : OK
 Test Status : Test is Finished
 Machine Constants : Not Saved
 Results Validation : In Limits
 Measurement Quality : OK
 Comment :

Step	Start Time	Stop Time	Status	Execution Time
Initialize Data	18:20:18	18:20:19	Finished	00:00:01
Prepare Machine	18:20:19	18:27:18	Finished	00:06:58
Perform Measurements	18:27:18	19:15:24	Finished	00:48:06
Model	19:15:24	19:15:38	Finished	00:00:13

Scenario Inputs

Selected Scenario : Calibration
 Verification Set : Single Verification
 Overrule Inputs : Yes
 Manual Scenario Selected : No

Verification Sets

Lens stability threshold value : 2.0 [nm]

RMS Limit Values

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		Deltas			
		+-----+-----+-----+-----+			
	Current	NEXZ	SA	Both	
	[nm]	[nm]	[nm]	[nm]	
+=====+=====+=====+=====+=====+					
Spherical	999.00	999.00	999.00	999.00	
Coma	999.00	999.00	999.00	999.00	
Astigmatism	999.00	999.00	999.00	999.00	
3-foil	999.00	999.00	999.00	999.00	
(Z5->Z37)	999.00	999.00	999.00	999.00	
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Test Info

Machine type : XT1900GI
Lens ID ELLE : 0136699z
ID Testlog : 138485
 : ZSCA_3232_20241104_1827_calibration.tlg
Date and time of measurement : 11/04/2024 18:27
Reticle ID : 45565276P195
Measurements layout : UVXY-UV13X2
Clearout reticle : Yes
Chuck ID : Chuck 2
Pupil Shape
Illumination mode : Annular
NA : 1.350
DOE ID : 15
Sigma
inner : 0.550
outer : 0.930
PCE ID : 1
PSE ID : 0
Number of cycles : 1

Number of Y positions : 5
 Lens Temperature : 22.00 [C]
 Lens Pressure : 1008.10 [mbar]
 Lens Stability

Zernike delta over measurement time

	Delta	Spec.	In Spec.	
	[nm]	[nm]		
Z5	-0.318	2.000	Yes	
Z7	0.269	2.000	Yes	
Z9	0.316	2.000	Yes	
Z14	-0.063	2.000	Yes	
Z16	0.018	2.000	Yes	

RMS values

		After Correction	Deltas				
	Current	NEXZ	+SA	NEXZ	SA	Both	
	[nm]	[nm]	[nm]	[nm]	[nm]	[nm]	
Spherical	0.51	0.41	0.41	0.10	-0.01	0.10	
Coma	0.27	0.32	0.32	-0.04	-0.00	-0.05	
Astigmatism	0.28	0.28	0.27	-0.01	0.01	0.00	
3-foil	0.35	0.32	0.37	0.03	-0.04	-0.02	
(Z5->Z37)	1.41	0.93	0.90	0.48	0.03	0.51	
(Z38->)	0.76	0.76	0.76	0.00	0.00	0.00	

Std Values

	After Correction	Deltas	

	Current	NEXZ	+SA	NEXZ	SA	Both
	[nm]	[nm]	[nm]	[nm]	[nm]	[nm]
Std Z2->Z3	3.42	3.05	2.64	0.37	0.42	0.78
Std Z5->Z37	1.18	1.18	1.21	-0.00	-0.03	-0.03

THE FOLLOWING ADJUSTMENTS SHOULD BE APPLIED TO THE SEMI-ACTIVE ELEMENTS:

	Item	Adjustment
0	SAXY 1x	[um] 0.197
1	SAXY 1y	[um] 0.066
2	SAXY 2x	[um] 0.099
3	SAXY 2y	[um] 0.021
4	SAXY 3x	[um] 0.032
5	SAXY 3y	[um] 0.022
6	SAXY 4x	[um] -0.038
7	SAXY 4y	[um] 0.009
8	SAXY 5x	[um] 0.018
9	SAXY 5y	[um] 0.012
10	SAXY 6x	[um] 0.011
11	SAXY 6y	[um] 0.051
12	(W)ELLE element X	[um] -0.018
13	(W)ELLE element Y	[um] -0.031
14	(W)ELLE element Z	[um] 0.003
15	(W)ELLE element Rx	[urad] -0.155
16	(W)ELLE element Ry	[urad] 0.077
17	HDM element 1X	[um] -0.187
18	HDM element 1Y	[um] 0.135
19	HDM element 1Z	[um] 0.332
20	HDM element 1Rx	[urad] -0.489
21	HDM element 1Ry	[urad] 0.363
22	HDM element 2X	[um] -0.317

23	HDM element 2Y	[um]		0.130	
24	HDM element 2Z	[um]		0.414	
25	HDM element 2Rx	[urad]		-0.102	
26	HDM element 2Ry	[urad]		-1.254	

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THE FOLLOWING CORRECTIONS SHOULD BE APPLIED TO THE MACHINE CONSTANTS:

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				Reference		Correction		New	
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0	LENS-RELATED MCs							
1								
2	IMAGE QUALITY (KI) MCs							
3								
4	Wavelength shift	[pm]		13.852		−0.237		13.615
5	Reticle-stage height	[um]		0.000		−0.000		0.000
6	Lens element 1	[um]		1.907		0.223		2.130
7	NEXZ Element 1 Rx tilt	[urad]		0.368		1.320		1.688
8	NEXZ Element 1 Ry tilt	[urad]		10.041		0.182		10.222
9	Lens element 2	[um]		0.866		−0.166		0.700
10	NEXZ Element 2 Rx tilt	[urad]		17.011		−0.659		16.352
11	NEXZ Element 2 Ry tilt	[urad]		10.352		2.127		12.479
12	Lens element 3	[um]		0.661		0.112		0.773
13	NEXZ Element 3 Rx tilt	[urad]		10.081		2.226		12.307
14	NEXZ Element 3 Ry tilt	[urad]		18.174		−0.391		17.782
15	Lens element 4	[um]		−0.885		0.302		−0.583
16	NEXZ Element 4 Rx tilt	[urad]		12.806		−1.083		11.723
17	NEXZ Element 4 Ry tilt	[urad]		7.952		−1.145		6.807

	18 Lens element 5	[um]		1.288		-0.076		1.212
	19 NEXZ Element 5 Rx tilt	[urad]		0.233		0.150		0.384
	20 NEXZ Element 5 Ry tilt	[urad]		-0.018		0.140		0.122
	21 Lens element 6	[um]		0.368		0.130		0.497
	22 NEXZ Element 6 Rx tilt	[urad]		-1.623		0.175		-1.448
	23 NEXZ Element 6 Ry tilt	[urad]		0.763		0.142		0.905
	24 Adaptive lens element 1	[bar]		-0.050		-0.003		-0.052
	25 Adaptive lens element 2	[bar]		-0.003		0.030		0.027
	26							
	27 LENS FINGERPRINT							
	28 RMS Z2 - Z3	[nm]		0.659		-0.103		
0.556	29 RMS Z4 - Z5	[nm]		0.626		-0.085		
0.540	30 RMS Z5 - Z37	[nm]		0.906		-0.007		
0.899	31 Std Z2 - Z3	[nm]		2.688		-0.052		2.637
	32 Std Z5 - Z37	[nm]		1.978		-0.773		1.206
	33							
	34 SYCO REFERENCES							
	35 RMS Z2 - Z3	[nm]		50.014		0.105		50.119
	36 RMS Z4 - Z5	[nm]		25.752		-0.298		
25.454	37 RMS Z5 - Z37	[nm]		2.152		0.446		2.598
	38							
	39 SYCO TOTAL DRIFT							
	40 RMS Z2 - Z3	[nm]		0.000		0.000		0.000
	41 RMS Z4 - Z5	[nm]		0.523		-0.151		
0.373								

	42	RMS Z5 — Z37	[nm]		2.105		−2.105	
0.000								
	43							
	44	LOCO REFERENCES: Chuck 1						
	45	RMS Z2 — Z3	[nm]		51.950		−0.000	
51.950								
	46	RMS Z4 — Z5	[nm]		15.868		−0.059	
15.809								
	47	RMS Z5 — Z37	[nm]		1.911		0.456	
	48	LOCO REFERENCES: Chuck 2						
	49	RMS Z2 — Z3	[nm]		51.950		−0.000	
51.950								
	50	RMS Z4 — Z5	[nm]		15.868		−0.059	
15.809								
	51	RMS Z5 — Z37	[nm]		1.911		0.456	
	52							
	53	MEAS. SYS. INTERFEROM. (MI) MCs						
	54							
	55	Reticle—stage height	[um]		−6.845		−0.437	
	56	Reticle—stage Rx tilt	[urad]		86.767		−1.795	
	57	Reticle—stage Ry tilt	[urad]		8.999		0.999	
	58							
	59	NON—LENS—RELATED MCs						
	60							
	61	HEIGHT AND TILT EXPOSURE (KU) MCs						
	62							
	63	Chuck: 1						
	64	Image height	[um]		0.167		0.007	

Non-integrated measured aberration data (cycle averaged)

	Min	Max
[nm]	[nm]	
Z2	-158.56	-102.04
Z3	-26.44	15.86
Z5	-4.08	1.87
Z6	-2.49	1.24
Z7	-0.81	0.87
Z8	-2.71	2.11
Z9	-0.15	1.31
Z10	-1.50	0.85
Z11	-1.51	1.44
Z12	-0.88	1.03
Z13	-1.42	1.20
Z14	-0.74	0.69
Z15	-1.64	1.39
Z16	-0.67	1.22
Z17	-1.79	0.59
Z18	-0.96	0.40
Z19	-0.74	0.72
Z20	-1.25	1.13
Z21	-0.70	1.73
Z22	-0.97	1.00
Z23	-0.60	0.51
Z24	-1.34	0.83
Z25	-0.32	1.00
Z26	-0.90	0.85
Z27	-0.43	0.92
Z28	-1.25	0.69
Z29	-0.73	0.64
Z30	-0.58	0.65
Z31	-0.94	1.15
Z32	-0.75	0.54
Z33	-0.45	0.86
Z34	-0.67	0.52
Z35	-0.85	0.82
Z36	-1.09	0.48
Z37	-0.64	0.29

Integrated measured aberration data (cycle averaged, scan integrated)

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	Min	Max
	[nm]	[nm]
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Z2	-154.64	-107.56
Z3	-18.94	14.11
Z5	-2.80	1.67
Z6	-1.69	0.50
Z7	-0.60	0.48
Z8	-0.36	0.57
Z9	-0.04	1.03
Z10	-0.69	0.36
Z11	-0.92	0.37
Z12	-0.38	0.25
Z13	-0.31	0.29
Z14	-0.60	0.53
Z15	-0.24	0.46
Z16	-0.44	0.70
Z17	-1.33	-0.04
Z18	-0.69	0.24
Z19	-0.58	0.48
Z20	-0.54	0.42
Z21	-0.24	0.95
Z22	-0.59	0.73
Z23	-0.20	0.41
Z24	-0.54	0.19
Z25	-0.13	0.84
Z26	-0.53	0.64
Z27	-0.27	0.57
Z28	-0.61	-0.23
Z29	-0.22	0.27
Z30	-0.30	0.40
Z31	-0.63	0.40
Z32	-0.34	0.11
Z33	-0.13	0.44
Z34	-0.58	0.39
Z35	-0.10	0.22
Z36	-0.87	0.17
Z37	-0.53	0.12
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Integrated measured aberration data (cycle averaged, scan integrated)

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      |   | X   |   Z2   |   Z3   |   Z4   |   Z5   |   Z6   |   Z7   |
      |   | [mm] |   [nm]   |   [nm]   | [nm] | [nm] | [nm] | [nm] |

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      | 0 | -12.72 | -107.56 | -18.94 |   | 1.35 | -0.16 | -0.45 |
      | 1 | -10.60 | -115.43 | -14.07 |   | 1.38 | 0.17 | 0.11 |
      | 2 | -8.48 | -119.89 | -8.49 |   | 1.67 | -0.85 | 0.04 |
      | 3 | -6.36 | -126.23 | -7.73 |   | 1.42 | -0.78 | 0.36 |
      | 4 | -4.24 | -123.81 | 1.75 |   | 0.69 | -0.68 | 0.00 |
      | 5 | -2.12 | -131.45 | 4.77 |   | 0.11 | -0.34 | -0.22 |
      | 6 | 0.00 | -132.77 | 2.20 |   | -0.25 | -0.47 | -0.21 |
      | 7 | 2.12 | -137.90 | 8.53 |   | -0.39 | -0.21 | -0.30 |
      | 8 | 4.24 | -143.37 | 1.38 |   | -0.67 | -0.71 | -0.42 |
      | 9 | 6.36 | -137.75 | 14.11 |   | -1.14 | -0.80 | -0.60 |
      | 10 | 8.48 | -143.81 | 2.55 |   | -2.11 | -1.69 | -0.16 |
      | 11 | 10.60 | -143.80 | -5.87 |   | -2.80 | -1.29 | 0.03 |
      | 12 | 12.72 | -154.64 | -11.88 |   | -1.06 | 0.50 | 0.48 |

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      |   | X   |   Z8   |   Z9   |   Z10  |   Z11  |   Z12  |   Z13  |
      |   | [mm] |   [nm]   | [nm]   | [nm]   | [nm]   | [nm]   | [nm]   |

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      | 0 | -12.72 | 0.01 | 0.84 | 0.36 | -0.37 | 0.25 | -0.16 |
      | 1 | -10.60 | 0.25 | 0.48 | -0.09 | -0.66 | 0.04 | 0.19 |
      | 2 | -8.48 | 0.57 | -0.04 | 0.15 | 0.06 | -0.28 | 0.16 |
      | 3 | -6.36 | 0.22 | 0.51 | -0.43 | -0.39 | -0.32 | 0.13 |
      | 4 | -4.24 | 0.23 | 0.57 | -0.69 | -0.28 | -0.26 | 0.29 |
      | 5 | -2.12 | 0.17 | 0.98 | -0.29 | -0.06 | -0.38 | 0.26 |
      | 6 | 0.00 | 0.17 | 0.95 | -0.17 | -0.01 | -0.25 | 0.18 |
      | 7 | 2.12 | -0.06 | 1.03 | -0.10 | -0.35 | -0.17 | 0.08 |
      | 8 | 4.24 | -0.21 | 0.91 | -0.06 | -0.74 | -0.17 | -0.01 |
      | 9 | 6.36 | -0.35 | 0.96 | -0.20 | -0.92 | -0.20 | 0.09 |

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10	8.48	0.09	0.86	-0.69	-0.19	-0.07	-0.15	
11	10.60	-0.36	0.68	-0.31	-0.42	-0.03	-0.31	
12	12.72	-0.34	0.28	0.06	0.37	-0.27	-0.22	

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		X		Z14		Z15		Z16		Z17		Z18		Z19	
		[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]	

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0	-12.72	0.08	0.13	-0.44	-0.04	-0.69	-0.40	
1	-10.60	-0.19	0.46	-0.34	-0.32	-0.65	-0.58	
2	-8.48	0.24	0.16	-0.09	-0.86	-0.39	-0.49	
3	-6.36	0.53	0.02	-0.07	-1.12	-0.01	-0.07	
4	-4.24	0.27	0.18	0.05	-1.01	0.24	0.28	
5	-2.12	0.10	0.13	0.02	-1.21	0.10	0.42	
6	0.00	-0.33	-0.03	0.16	-1.24	0.09	-0.17	
7	2.12	-0.41	0.09	0.09	-1.05	0.19	-0.41	
8	4.24	-0.40	0.03	0.29	-1.20	-0.14	-0.26	
9	6.36	-0.53	-0.03	0.47	-1.33	-0.08	-0.01	
10	8.48	-0.17	0.08	0.70	-1.24	-0.11	0.48	
11	10.60	-0.04	0.22	0.49	-0.94	-0.24	0.43	
12	12.72	-0.60	-0.24	0.19	-1.27	-0.63	0.26	

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		X		Z20		Z21		Z22		Z23		Z24		Z25	
		[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]	

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0	-12.72	-0.27	0.40	0.73	0.21	-0.15	0.38	
1	-10.60	0.26	0.46	0.10	0.30	-0.30	0.41	

2	-8.48	0.22	0.29	0.23	0.02	-0.15	-0.01	
3	-6.36	0.19	0.45	0.05	0.11	-0.13	-0.13	
4	-4.24	0.18	0.56	-0.05	0.41	-0.33	0.06	
5	-2.12	-0.25	0.87	0.08	0.21	-0.38	0.24	
6	0.00	-0.54	0.95	0.16	0.25	-0.32	0.38	
7	2.12	-0.27	0.72	0.07	0.10	-0.41	0.41	
8	4.24	0.32	0.58	0.16	-0.13	-0.54	0.24	
9	6.36	0.42	0.28	0.28	-0.20	-0.30	0.18	
10	8.48	0.30	0.15	0.22	-0.20	-0.15	0.30	
11	10.60	0.29	0.10	0.10	-0.06	-0.14	0.58	
12	12.72	-0.25	-0.24	-0.59	0.11	0.19	0.84	

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	X	Z26	Z27	Z28	Z29	Z30	Z31	
	[mm]	[nm]	[nm]	[nm]	[nm]	[nm]	[nm]	

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0	-12.72	-0.53	0.06	-0.28	0.12	0.40	-0.36	
1	-10.60	-0.04	0.56	-0.47	0.17	0.30	-0.63	
2	-8.48	-0.16	0.52	-0.33	0.27	0.15	-0.10	
3	-6.36	-0.38	0.45	-0.23	0.09	0.18	0.17	
4	-4.24	-0.43	0.57	-0.49	-0.22	0.12	0.24	
5	-2.12	-0.16	0.40	-0.53	-0.17	-0.20	0.36	
6	0.00	-0.09	0.31	-0.52	-0.10	0.22	0.40	
7	2.12	0.23	0.26	-0.61	-0.01	0.36	0.21	
8	4.24	0.39	0.56	-0.36	0.20	0.12	-0.17	
9	6.36	0.25	0.41	-0.27	0.12	-0.16	-0.11	
10	8.48	0.13	0.16	-0.40	-0.14	-0.30	-0.12	
11	10.60	0.01	0.42	-0.54	-0.21	-0.25	-0.41	
12	12.72	0.64	-0.27	-0.36	-0.13	-0.21	-0.30	

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				X		Z32		Z33		Z34		Z35		Z36		Z37	
				[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]	
+=====+																	
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		0		-12.72		-0.09		0.44		-0.58		0.22		-0.77		-0.53	
		1		-10.60		-0.00		0.09		0.02		0.02		-0.87		-0.32	
		2		-8.48		-0.14		0.21		0.18		-0.10		-0.52		-0.27	
		3		-6.36		-0.22		0.38		0.11		-0.04		-0.37		-0.32	
		4		-4.24		-0.05		0.25		0.11		-0.07		-0.14		-0.37	
		5		-2.12		-0.08		0.10		0.14		0.06		0.08		-0.45	
		6		0.00		-0.34		0.14		0.09		-0.03		0.02		-0.35	
		7		2.12		0.08		0.13		0.35		0.12		0.14		-0.39	
		8		4.24		0.08		0.02		0.39		0.13		0.17		-0.13	
		9		6.36		0.11		-0.13		0.29		0.08		0.12		0.03	
		10		8.48		0.07		-0.01		0.08		0.04		-0.10		0.12	
		11		10.60		-0.09		0.05		-0.13		-0.03		-0.07		0.03	
		12		12.72		0.02		-0.10		-0.16		-0.04		0.17		-0.15	

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Non-integrated measured aberration data (cycle averaged)

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+																			
-+-----+-----+																			
			X		Y		Z2		Z3		Z4		Z5		Z6		Z7		
			[mm]		[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]		
+=====+										+=====+									
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		0		-12.72		1.80		-102.04		-26.44		16.35		1.13		0.77		-0.56	
		1		-10.60		1.80		-108.56		-21.38		15.89		1.36		-0.87		-0.39	
		2		-8.48		1.80		-114.57		-12.59		12.07		1.20		-0.53		-0.08	
		3		-6.36		1.80		-119.87		-13.70		11.07		1.01		-1.54		-0.30	
		4		-4.24		1.80		-118.68		-0.60		7.27		1.05		-1.48		0.00	
		5		-2.12		1.80		-125.28		2.01		6.19		0.11		-1.02		-0.49	
		6		0.00		1.80		-128.45		0.27		5.54		-0.41		-1.08		-0.50	
		7		2.12		1.80		-133.85		5.23		6.67		-0.21		-0.10		-0.36	
		8		4.24		1.80		-137.84		-2.06		8.85		-0.81		-0.35		-0.64	

9	6.36	1.80	-135.14	8.91	10.20	-0.79	-0.32	-0.32	
10	8.48	1.80	-137.01	-2.18	12.52	-1.21	-2.49	-0.15	
11	10.60	1.80	-138.95	-11.22	15.95	-1.76	-0.81	0.40	
12	12.72	1.80	-148.97	-16.64	18.93	-0.34	0.46	-0.11	
13	-12.72	0.90	-105.19	-19.83	14.91	1.47	-0.54	-0.69	
14	-10.60	0.90	-113.30	-13.85	12.55	1.81	-0.20	0.19	
15	-8.48	0.90	-117.71	-6.97	9.04	1.53	-0.68	-0.45	
16	-6.36	0.90	-124.20	-7.61	7.73	1.41	-1.28	0.40	
17	-4.24	0.90	-122.15	3.69	4.28	0.71	-1.29	-0.00	
18	-2.12	0.90	-128.89	5.99	2.79	0.21	-0.22	-0.28	
19	0.00	0.90	-130.88	4.31	1.58	-0.49	-0.75	-0.24	
20	2.12	0.90	-135.43	10.81	3.77	0.07	0.11	-0.35	
21	4.24	0.90	-140.72	4.06	5.81	-0.24	-0.84	-0.53	
22	6.36	0.90	-135.52	15.35	7.50	-0.73	-1.06	-0.61	
23	8.48	0.90	-141.73	4.20	8.91	-1.81	-2.43	0.41	
24	10.60	0.90	-141.61	-4.79	13.41	-1.82	-1.14	-0.02	
25	12.72	0.90	-153.79	-11.10	15.94	-0.07	1.24	0.37	
26	-12.72	-0.00	-107.97	-17.79	12.64	1.51	-0.24	-0.42	
27	-10.60	-0.00	-116.32	-13.11	9.84	1.44	0.40	0.34	
28	-8.48	-0.00	-119.72	-8.29	5.96	1.71	-1.43	-0.15	
29	-6.36	-0.00	-127.05	-6.34	3.64	1.53	-0.54	0.60	
30	-4.24	-0.00	-124.30	1.67	0.58	0.94	-0.25	-0.05	
31	-2.12	-0.00	-131.64	5.28	-1.03	0.09	-0.63	-0.21	
32	0.00	-0.00	-133.11	2.68	-2.28	-0.06	-0.40	-0.19	
33	2.12	-0.00	-138.78	8.97	0.15	-0.35	-0.16	-0.31	
34	4.24	-0.00	-143.64	2.61	2.18	-0.64	-1.18	-0.33	
35	6.36	-0.00	-137.74	14.77	3.87	-1.30	-0.76	-0.78	
36	8.48	-0.00	-145.13	2.89	6.09	-1.98	-1.45	0.00	
37	10.60	-0.00	-144.39	-4.73	8.68	-2.67	-1.59	-0.33	
38	12.72	-0.00	-154.27	-11.19	12.38	-1.18	0.45	0.77	
39	-12.72	-0.90	-110.28	-18.62	9.62	1.49	-0.19	-0.44	
40	-10.60	-0.90	-117.90	-14.47	6.41	1.06	0.58	0.07	
41	-8.48	-0.90	-122.49	-9.77	3.06	1.87	-0.78	0.46	
42	-6.36	-0.90	-128.42	-8.36	1.12	1.60	-0.58	0.36	
43	-4.24	-0.90	-125.63	-0.25	-2.83	0.35	-0.54	0.08	
44	-2.12	-0.90	-134.52	3.17	-4.01	0.09	-0.08	-0.13	
45	0.00	-0.90	-134.59	-0.51	-5.05	0.07	-0.33	-0.12	
46	2.12	-0.90	-139.84	6.57	-2.48	-0.56	-0.45	-0.21	
47	4.24	-0.90	-146.18	-1.43	-0.81	-0.82	-0.40	-0.44	
48	6.36	-0.90	-139.52	13.51	1.22	-1.17	-0.89	-0.53	
49	8.48	-0.90	-145.79	1.29	2.80	-2.55	-1.34	-0.65	
50	10.60	-0.90	-145.58	-7.44	4.91	-3.83	-1.39	0.19	
51	12.72	-0.90	-156.59	-13.14	8.32	-1.66	0.09	0.63	
52	-12.72	-1.80	-111.00	-13.23	7.79	0.48	0.18	0.16	

53	-10.60	-1.80	-118.95	-9.02	3.95	0.96	0.46	-0.16
54	-8.48	-1.80	-124.59	-5.57	-0.03	1.85	-0.20	0.87
55	-6.36	-1.80	-129.94	-4.30	-2.32	1.03	0.12	0.24
56	-4.24	-1.80	-127.20	4.48	-5.65	0.48	0.12	-0.04
57	-2.12	-1.80	-135.78	7.06	-6.48	-0.05	0.18	-0.06
58	0.00	-1.80	-136.26	4.36	-8.08	-0.83	0.27	-0.11
59	2.12	-1.80	-140.87	9.82	-5.41	-1.37	-0.67	-0.33
60	4.24	-1.80	-147.77	1.74	-3.32	-1.36	-0.22	-0.18
61	6.36	-1.80	-141.60	15.86	-1.75	-2.00	-0.54	-0.55
62	8.48	-1.80	-147.19	5.33	-1.54	-3.01	-0.60	-0.81
63	10.60	-1.80	-148.06	-2.48	2.43	-4.08	-1.04	0.37
64	12.72	-1.80	-158.56	-7.81	5.54	-2.43	-0.14	0.14

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X Y Z8 Z9 Z10 Z11 Z12 Z13
[mm] [mm] [nm] [nm] [nm] [nm] [nm] [nm]

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0	-12.72	1.80	2.11	1.00	0.85	0.00	0.32	0.61	
1	-10.60	1.80	2.03	0.08	0.07	-0.65	0.70	0.90	
2	-8.48	1.80	1.77	-0.15	-0.09	0.36	0.43	0.87	
3	-6.36	1.80	1.86	0.06	-0.28	-0.06	0.44	1.20	
4	-4.24	1.80	0.41	0.34	-0.97	0.01	0.70	0.74	
5	-2.12	1.80	0.84	0.66	-0.28	0.66	0.31	0.32	
6	0.00	1.80	0.63	0.75	-0.11	0.76	0.34	0.10	
7	2.12	1.80	0.23	0.78	-0.40	0.46	0.62	-0.12	
8	4.24	1.80	-0.27	0.63	-0.10	-0.08	0.95	-0.49	
9	6.36	1.80	0.57	0.62	-0.98	-0.10	0.65	-1.03	
10	8.48	1.80	0.93	0.54	-1.21	0.62	1.03	-0.86	
11	10.60	1.80	0.50	0.20	-1.11	0.25	0.84	-1.05	
12	12.72	1.80	0.61	-0.05	-1.16	1.44	0.45	-1.42	
13	-12.72	0.90	0.56	0.72	0.39	-0.26	0.27	0.35	
14	-10.60	0.90	0.67	0.32	-0.37	-1.30	-0.16	0.97	
15	-8.48	0.90	1.43	-0.14	0.41	0.26	-0.15	0.34	
16	-6.36	0.90	0.51	0.50	-0.76	-0.53	-0.31	0.87	
17	-4.24	0.90	0.57	0.78	-0.87	-0.20	-0.34	0.38	
18	-2.12	0.90	0.52	0.87	-0.40	0.02	-0.36	0.35	

19	0.00	0.90	0.56	0.81	-0.24	0.02	-0.21	0.17	
20	2.12	0.90	0.45	1.07	-0.35	-0.20	-0.21	-0.14	
21	4.24	0.90	0.36	1.31	-0.10	-0.70	-0.30	-0.10	
22	6.36	0.90	0.28	1.07	-0.08	-0.96	-0.17	-0.72	
23	8.48	0.90	1.25	1.03	-1.50	0.53	0.10	-0.36	
24	10.60	0.90	0.15	0.49	-0.62	-0.67	-0.02	-1.32	
25	12.72	0.90	0.30	0.18	-0.22	0.78	-0.01	-1.06	
26	-12.72	-0.00	0.29	0.87	0.09	-0.42	0.42	-0.35	
27	-10.60	-0.00	0.48	0.60	-0.03	-0.95	-0.11	0.16	
28	-8.48	-0.00	0.79	0.01	0.11	0.00	-0.54	0.27	
29	-6.36	-0.00	0.32	0.77	-0.54	-0.40	-0.60	-0.12	
30	-4.24	-0.00	0.43	0.76	-0.49	-0.30	-0.66	0.24	
31	-2.12	-0.00	0.44	1.23	-0.20	-0.06	-0.88	0.32	
32	0.00	-0.00	0.37	1.20	-0.14	0.04	-0.71	0.18	
33	2.12	-0.00	0.09	1.30	-0.06	-0.39	-0.61	0.05	
34	4.24	-0.00	0.15	1.13	-0.20	-0.65	-0.54	0.01	
35	6.36	-0.00	-0.33	1.11	-0.10	-0.89	-0.48	0.27	
36	8.48	-0.00	0.54	0.88	-0.65	-0.09	-0.40	-0.31	
37	10.60	-0.00	-0.06	0.95	-0.10	-0.75	-0.33	-0.44	
38	12.72	-0.00	0.15	0.28	0.39	0.48	-0.26	0.06	
39	-12.72	-0.90	-0.64	0.97	0.37	-0.49	0.08	-0.55	
40	-10.60	-0.90	-0.26	0.63	0.22	-0.00	-0.00	-0.44	
41	-8.48	-0.90	-0.37	0.08	-0.03	-0.03	-0.53	-0.11	
42	-6.36	-0.90	-0.29	0.56	-0.13	-0.39	-0.55	-0.45	
43	-4.24	-0.90	-0.03	0.47	-0.66	-0.30	-0.35	0.17	
44	-2.12	-0.90	-0.27	1.09	-0.30	-0.16	-0.53	0.13	
45	0.00	-0.90	-0.30	0.97	-0.16	-0.06	-0.30	0.22	
46	2.12	-0.90	-0.49	1.03	0.10	-0.49	-0.31	0.27	
47	4.24	-0.90	-0.75	0.64	0.18	-0.93	-0.27	0.12	
48	6.36	-0.90	-0.84	1.01	-0.19	-1.03	-0.45	0.77	
49	8.48	-0.90	-1.09	0.88	0.08	-0.84	-0.37	0.16	
50	10.60	-0.90	-0.94	0.73	-0.07	-0.21	-0.20	0.63	
51	12.72	-0.90	-0.95	0.45	0.41	-0.02	-0.63	0.45	
52	-12.72	-1.80	-2.68	0.51	0.52	-0.63	0.13	-0.66	
53	-10.60	-1.80	-1.95	0.61	-0.43	0.08	0.40	-0.87	
54	-8.48	-1.80	-1.01	-0.13	0.29	-0.35	0.03	-0.60	
55	-6.36	-1.80	-1.11	0.10	-0.17	-0.39	0.22	-0.69	
56	-4.24	-1.80	-0.71	0.03	-0.58	-0.64	0.34	0.08	
57	-2.12	-1.80	-1.03	0.62	-0.21	-0.77	0.63	0.14	
58	0.00	-1.80	-0.67	0.75	-0.14	-0.91	0.45	0.22	
59	2.12	-1.80	-0.98	0.39	0.20	-1.08	0.75	0.43	
60	4.24	-1.80	-1.26	0.29	-0.14	-1.31	0.37	0.28	
61	6.36	-1.80	-1.69	0.46	-0.07	-1.47	0.27	1.07	
62	8.48	-1.80	-2.02	0.60	-0.17	-1.51	0.14	0.78	

63	10.60	-1.80	-1.86	0.76	0.08	-0.09	0.30	0.97
64	12.72	-1.80	-2.71	0.47	0.20	-1.04	-0.70	0.58

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		X		Y		Z14		Z15		Z16		Z17		Z18		Z19	
		[mm]		[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]	

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0	-12.72	1.80	-0.60	-0.02	-0.35	-0.21	-0.79	-0.20
1	-10.60	1.80	0.04	-0.28	-0.67	-0.21	-0.12	-0.53
2	-8.48	1.80	-0.36	-0.09	-0.21	-1.29	-0.29	-0.09
3	-6.36	1.80	0.29	-1.15	0.17	-1.56	0.02	0.05
4	-4.24	1.80	0.21	-1.34	0.49	-1.14	-0.12	0.08
5	-2.12	1.80	0.07	-1.54	0.69	-1.14	0.03	0.22
6	0.00	1.80	-0.37	-1.64	0.87	-0.84	-0.13	-0.16
7	2.12	1.80	-0.53	-1.32	0.75	-1.19	-0.25	-0.20
8	4.24	1.80	-0.35	-1.30	0.89	-1.39	-0.26	-0.13
9	6.36	1.80	-0.22	-1.24	0.80	-1.34	-0.42	-0.08
10	8.48	1.80	0.62	-0.34	0.50	-1.79	-0.43	0.13
11	10.60	1.80	-0.22	-0.73	0.27	-0.74	-0.62	0.56
12	12.72	1.80	-0.17	-0.46	0.12	-1.03	-0.59	0.27
13	-12.72	0.90	-0.10	0.00	-0.56	-0.17	-0.63	-0.29
14	-10.60	0.90	-0.14	-0.04	-0.58	-0.30	-0.47	-0.66
15	-8.48	0.90	0.26	-0.64	-0.47	-1.05	-0.40	-0.69
16	-6.36	0.90	0.35	-1.05	-0.35	-1.00	-0.14	-0.07
17	-4.24	0.90	0.31	-0.98	-0.02	-1.20	0.10	0.12
18	-2.12	0.90	0.12	-1.18	0.20	-1.25	0.16	0.39
19	0.00	0.90	-0.41	-1.09	0.32	-1.28	0.02	-0.07
20	2.12	0.90	-0.55	-1.13	0.20	-1.00	0.17	-0.26
21	4.24	0.90	-0.55	-1.16	0.29	-1.26	-0.15	-0.09
22	6.36	0.90	-0.49	-0.99	0.40	-1.21	-0.11	-0.03
23	8.48	0.90	-0.07	-0.63	0.49	-1.25	-0.43	0.72
24	10.60	0.90	-0.25	-0.31	0.32	-0.76	-0.56	0.56
25	12.72	0.90	-0.66	-0.50	0.30	-1.34	-0.43	0.28
26	-12.72	-0.00	0.33	0.14	-0.54	-0.17	-0.88	-0.74
27	-10.60	-0.00	-0.34	0.37	-0.33	-0.52	-0.68	-0.65
28	-8.48	-0.00	0.33	0.07	-0.17	-0.76	-0.70	-0.62

29	-6.36	-0.00	0.62	0.15	-0.27	-1.18	0.10	-0.08	
30	-4.24	-0.00	0.30	0.26	-0.27	-1.00	0.29	0.26	
31	-2.12	-0.00	0.08	0.54	-0.18	-1.13	0.07	0.60	
32	0.00	-0.00	-0.36	0.11	-0.19	-1.16	0.11	-0.16	
33	2.12	-0.00	-0.33	0.48	-0.10	-0.97	0.30	-0.56	
34	4.24	-0.00	-0.40	0.12	0.02	-1.10	-0.14	-0.32	
35	6.36	-0.00	-0.62	0.03	0.25	-1.24	-0.11	0.08	
36	8.48	-0.00	-0.34	-0.03	0.60	-0.92	0.13	0.59	
37	10.60	-0.00	0.07	0.34	0.54	-1.06	-0.23	0.48	
38	12.72	-0.00	-0.74	-0.18	0.11	-1.49	-0.55	0.57	
39	-12.72	-0.90	0.33	0.10	-0.40	0.07	-0.59	-0.44	
40	-10.60	-0.90	-0.22	0.99	-0.15	-0.37	-0.88	-0.58	
41	-8.48	-0.90	0.34	0.82	0.13	-0.70	-0.24	-0.42	
42	-6.36	-0.90	0.69	0.91	0.05	-0.93	-0.03	-0.14	
43	-4.24	-0.90	0.20	1.38	0.14	-0.87	0.40	0.51	
44	-2.12	-0.90	0.11	1.22	-0.30	-1.34	0.09	0.37	
45	0.00	-0.90	-0.25	1.09	0.02	-1.31	0.17	-0.22	
46	2.12	-0.90	-0.24	1.01	-0.18	-1.18	0.21	-0.57	
47	4.24	-0.90	-0.31	1.22	0.22	-1.17	-0.06	-0.36	
48	6.36	-0.90	-0.55	0.96	0.45	-1.54	-0.00	-0.08	
49	8.48	-0.90	-0.33	0.77	0.88	-1.30	0.18	0.37	
50	10.60	-0.90	0.05	0.73	0.55	-1.04	0.01	0.43	
51	12.72	-0.90	-0.66	-0.14	0.12	-1.08	-0.88	0.11	
52	-12.72	-1.80	-0.14	0.65	-0.02	0.59	-0.49	0.14	
53	-10.60	-1.80	-0.09	1.39	0.13	0.19	-0.96	-0.24	
54	-8.48	-1.80	0.22	0.97	0.68	-0.63	0.03	-0.19	
55	-6.36	-1.80	0.54	1.29	0.64	-1.27	0.03	-0.02	
56	-4.24	-1.80	0.31	1.35	0.46	-0.81	0.40	0.41	
57	-2.12	-1.80	0.06	1.25	0.27	-1.10	0.15	0.31	
58	0.00	-1.80	-0.16	1.01	0.35	-1.56	0.26	-0.36	
59	2.12	-1.80	-0.61	1.19	0.37	-0.97	0.37	-0.22	
60	4.24	-1.80	-0.28	1.17	0.59	-1.24	-0.20	-0.38	
61	6.36	-1.80	-0.58	0.92	1.00	-1.36	0.21	0.02	
62	8.48	-1.80	-0.30	0.86	1.22	-1.40	-0.36	0.18	
63	10.60	-1.80	0.09	0.84	0.87	-0.97	0.32	-0.12	
64	12.72	-1.80	-0.34	0.21	0.41	-1.15	-0.79	-0.23	

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	X	Y	Z20	Z21	Z22	Z23	Z24	Z25
	[mm]	[mm]	[nm]	[nm]	[nm]	[nm]	[nm]	[nm]

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0	-12.72	1.80	0.21	0.41	0.64	0.08	0.22	0.11	
1	-10.60	1.80	-0.05	-0.08	0.29	0.08	0.14	0.44	
2	-8.48	1.80	0.73	-0.40	0.17	0.46	-0.13	0.19	
3	-6.36	1.80	0.74	-0.49	-0.21	0.23	0.36	-0.32	
4	-4.24	1.80	0.83	-0.31	0.24	0.23	0.56	-0.02	
5	-2.12	1.80	0.80	0.01	0.25	0.22	0.13	-0.13	
6	0.00	1.80	0.54	0.10	0.29	0.37	0.03	0.03	
7	2.12	1.80	0.77	-0.30	0.22	-0.04	0.09	0.06	
8	4.24	1.80	1.03	-0.35	0.47	-0.04	0.03	0.08	
9	6.36	1.80	0.96	-0.70	1.00	0.05	0.13	0.09	
10	8.48	1.80	0.62	-0.61	0.91	-0.54	-0.23	0.46	
11	10.60	1.80	-0.15	-0.44	0.16	0.10	-0.10	0.55	
12	12.72	1.80	-0.33	-0.19	-0.30	0.18	0.08	0.47	
13	-12.72	0.90	0.13	0.61	0.75	0.28	-0.02	0.23	
14	-10.60	0.90	0.49	0.71	-0.58	-0.01	0.04	0.46	
15	-8.48	0.90	0.61	0.34	0.36	0.09	0.39	0.07	
16	-6.36	0.90	1.13	0.47	-0.04	-0.19	0.83	-0.13	
17	-4.24	0.90	0.96	0.62	0.02	0.39	0.31	-0.22	
18	-2.12	0.90	0.58	0.79	0.10	0.20	0.27	-0.10	
19	0.00	0.90	0.22	0.84	0.30	0.33	0.01	0.05	
20	2.12	0.90	0.56	0.73	0.23	0.05	0.17	0.16	
21	4.24	0.90	1.07	0.79	0.29	-0.14	-0.02	-0.01	
22	6.36	0.90	1.09	0.41	0.67	-0.02	0.49	0.17	
23	8.48	0.90	0.64	0.17	0.44	-0.16	0.16	0.40	
24	10.60	0.90	0.32	0.35	0.54	0.19	0.09	0.72	
25	12.72	0.90	-0.09	-0.06	-0.26	0.24	0.17	0.79	
26	-12.72	-0.00	-0.27	0.37	0.99	-0.02	-0.08	0.41	
27	-10.60	-0.00	0.53	0.84	0.03	0.44	-0.30	0.35	
28	-8.48	-0.00	0.38	0.73	-0.03	-0.09	0.02	-0.02	
29	-6.36	-0.00	0.13	1.07	0.01	0.05	-0.09	-0.10	
30	-4.24	-0.00	-0.06	1.23	-0.14	0.50	-0.40	0.05	
31	-2.12	-0.00	-0.47	1.47	-0.01	0.23	-0.57	0.30	
32	0.00	-0.00	-0.82	1.73	0.22	0.13	-0.32	0.59	
33	2.12	-0.00	-0.59	1.26	0.18	0.13	-0.60	0.45	
34	4.24	-0.00	0.27	1.12	0.22	-0.11	-0.52	0.22	
35	6.36	-0.00	0.41	0.67	0.19	-0.15	-0.45	0.16	
36	8.48	-0.00	0.40	0.55	0.38	-0.07	0.00	0.24	
37	10.60	-0.00	0.61	0.38	0.27	-0.05	-0.15	0.45	
38	12.72	-0.00	-0.20	-0.35	-0.97	0.28	0.27	0.85	

39	-12.72	-0.90	-0.74	0.32	0.62	0.36	-0.32	0.57	
40	-10.60	-0.90	-0.02	0.36	0.55	0.51	-0.65	0.44	
41	-8.48	-0.90	-0.29	0.37	0.29	-0.07	-0.68	-0.19	
42	-6.36	-0.90	-0.58	0.53	0.21	0.35	-0.98	-0.11	
43	-4.24	-0.90	-0.34	0.45	-0.15	0.51	-1.17	0.21	
44	-2.12	-0.90	-0.98	1.04	0.08	0.22	-0.81	0.55	
45	0.00	-0.90	-1.25	0.80	-0.03	0.24	-0.71	0.53	
46	2.12	-0.90	-0.91	0.98	-0.11	0.18	-0.83	0.64	
47	4.24	-0.90	-0.35	0.58	-0.01	-0.27	-1.34	0.35	
48	6.36	-0.90	-0.18	0.45	-0.10	-0.37	-0.97	0.23	
49	8.48	-0.90	-0.09	0.24	-0.15	-0.21	-0.46	0.22	
50	10.60	-0.90	0.17	0.01	-0.35	-0.29	-0.37	0.58	
51	12.72	-0.90	-0.41	-0.29	-0.67	-0.18	0.24	0.94	
52	-12.72	-1.80	-0.59	0.17	0.29	0.41	-0.57	0.53	
53	-10.60	-1.80	-0.09	-0.47	0.67	0.41	-0.70	0.32	
54	-8.48	-1.80	-0.40	-0.55	0.57	-0.03	-0.66	0.11	
55	-6.36	-1.80	-0.61	-0.58	0.20	0.34	-0.99	-0.07	
56	-4.24	-1.80	-0.42	-0.38	0.02	0.09	-0.55	0.53	
57	-2.12	-1.80	-0.91	-0.20	0.07	0.12	-0.91	0.55	
58	0.00	-1.80	-0.97	0.27	-0.04	0.28	-0.51	0.62	
59	2.12	-1.80	-0.94	-0.40	-0.38	0.04	-0.80	0.67	
60	4.24	-1.80	-0.46	-0.51	-0.16	0.07	-0.46	0.78	
61	6.36	-1.80	-0.25	-0.65	-0.24	-0.60	-0.57	0.24	
62	8.48	-1.80	-0.20	-0.48	-0.50	-0.30	-0.49	0.25	
63	10.60	-1.80	0.05	-0.50	-0.37	-0.29	-0.20	0.68	
64	12.72	-1.80	-0.36	-0.28	-0.46	-0.09	0.01	1.00	

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		X		Y		Z26		Z27		Z28		Z29		Z30		Z31	
		[mm]		[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]	

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0	-12.72	1.80	-0.68	0.61	-0.57	-0.33	0.31	-0.32	
1	-10.60	1.80	-0.74	0.70	0.18	0.34	0.00	-0.47	
2	-8.48	1.80	-0.19	0.54	0.50	0.64	-0.24	-0.75	
3	-6.36	1.80	-0.41	0.55	0.45	0.22	-0.02	-0.40	
4	-4.24	1.80	-0.51	0.47	0.37	-0.14	0.24	-0.53	

5	-2.12	1.80	-0.21	0.02	0.37	-0.26	0.05	-0.43	
6	0.00	1.80	-0.14	-0.32	0.25	-0.31	0.23	-0.53	
7	2.12	1.80	-0.02	-0.23	0.36	-0.23	0.30	-0.59	
8	4.24	1.80	-0.01	0.57	0.45	-0.36	0.07	-0.94	
9	6.36	1.80	-0.01	0.51	0.36	-0.41	0.11	-0.55	
10	8.48	1.80	0.19	0.37	0.69	-0.56	0.40	-0.73	
11	10.60	1.80	0.33	0.83	0.51	-0.73	-0.08	-0.25	
12	12.72	1.80	0.59	0.30	-0.31	0.03	-0.02	-0.33	
13	-12.72	0.90	-0.90	0.31	-0.31	-0.05	0.33	-0.64	
14	-10.60	0.90	-0.15	0.31	-0.61	0.34	0.39	-0.70	
15	-8.48	0.90	-0.20	0.50	-0.15	0.52	0.17	-0.62	
16	-6.36	0.90	-0.05	0.12	-0.03	0.32	0.42	-0.43	
17	-4.24	0.90	-0.35	0.18	-0.45	-0.23	0.23	-0.43	
18	-2.12	0.90	-0.02	-0.04	-0.52	-0.12	-0.06	-0.45	
19	0.00	0.90	-0.10	-0.43	-0.40	-0.12	0.22	-0.33	
20	2.12	0.90	-0.04	-0.23	-0.61	-0.16	0.19	-0.59	
21	4.24	0.90	0.32	0.19	-0.32	-0.11	0.11	-0.79	
22	6.36	0.90	0.05	0.24	-0.35	-0.35	-0.34	-0.54	
23	8.48	0.90	0.14	0.12	-0.34	-0.56	-0.36	-0.48	
24	10.60	0.90	0.08	0.34	-0.53	-0.60	-0.30	-0.38	
25	12.72	0.90	0.83	-0.20	-0.41	-0.10	-0.21	-0.27	
26	-12.72	-0.00	-0.52	-0.16	-0.28	0.19	0.57	-0.25	
27	-10.60	-0.00	0.34	0.63	-0.76	-0.04	0.28	-0.85	
28	-8.48	-0.00	0.08	0.38	-0.76	0.32	0.40	-0.11	
29	-6.36	-0.00	-0.35	0.48	-0.67	0.02	0.36	0.30	
30	-4.24	-0.00	-0.43	0.87	-1.00	-0.18	0.18	0.35	
31	-2.12	-0.00	-0.32	0.50	-1.13	-0.08	-0.32	0.51	
32	0.00	-0.00	-0.12	0.49	-1.25	-0.09	0.22	0.55	
33	2.12	-0.00	0.35	0.32	-1.01	-0.04	0.44	0.46	
34	4.24	-0.00	0.41	0.80	-0.63	0.27	-0.04	-0.07	
35	6.36	-0.00	0.16	0.51	-0.58	0.19	-0.22	-0.10	
36	8.48	-0.00	-0.08	0.08	-0.77	-0.24	-0.58	-0.27	
37	10.60	-0.00	-0.26	0.36	-0.81	-0.04	-0.38	-0.59	
38	12.72	-0.00	0.69	-0.41	-0.30	-0.27	-0.32	-0.22	
39	-12.72	-0.90	-0.27	-0.05	-0.20	0.29	0.40	-0.28	
40	-10.60	-0.90	0.02	0.79	-0.42	0.06	0.42	-0.52	
41	-8.48	-0.90	-0.37	0.71	-0.60	-0.01	0.13	0.45	
42	-6.36	-0.90	-0.61	0.64	-0.42	-0.12	-0.05	0.72	
43	-4.24	-0.90	-0.50	0.71	-0.63	-0.23	-0.09	0.87	
44	-2.12	-0.90	-0.09	0.75	-0.56	-0.32	-0.27	1.02	
45	0.00	-0.90	-0.09	0.92	-0.33	-0.03	0.20	1.02	
46	2.12	-0.90	0.29	0.67	-0.78	0.18	0.34	0.84	
47	4.24	-0.90	0.44	0.70	-0.61	0.54	0.39	0.38	
48	6.36	-0.90	0.43	0.44	-0.29	0.55	-0.10	0.34	

49	8.48	-0.90	0.19	0.22	-0.66	0.32	-0.28	0.44	
50	10.60	-0.90	-0.03	0.47	-0.74	0.09	-0.20	-0.34	
51	12.72	-0.90	0.49	-0.34	-0.41	-0.15	-0.30	-0.47	
52	-12.72	-1.80	-0.08	-0.23	-0.15	0.37	0.14	-0.21	
53	-10.60	-1.80	-0.29	0.27	-0.13	0.47	0.10	-0.26	
54	-8.48	-1.80	-0.18	0.40	0.30	-0.13	-0.20	0.50	
55	-6.36	-1.80	-0.67	0.61	0.33	0.04	-0.15	0.47	
56	-4.24	-1.80	-0.41	0.52	0.31	-0.32	0.10	0.80	
57	-2.12	-1.80	-0.17	0.73	0.31	-0.04	-0.34	1.10	
58	0.00	-1.80	0.06	0.77	0.01	-0.01	0.25	1.15	
59	2.12	-1.80	0.65	0.77	-0.06	0.17	0.65	0.74	
60	4.24	-1.80	0.81	0.44	0.17	0.48	-0.07	0.47	
61	6.36	-1.80	0.85	0.37	0.22	0.53	0.05	0.29	
62	8.48	-1.80	0.49	0.17	0.08	0.46	-0.06	0.43	
63	10.60	-1.80	0.35	0.23	-0.32	0.12	-0.04	-0.33	
64	12.72	-1.80	0.42	-0.41	-0.35	0.03	0.17	-0.13	

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		X		Y		Z32		Z33		Z34		Z35		Z36		Z37	
		[mm]		[mm]		[nm]		[nm]		[nm]		[nm]		[nm]		[nm]	

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0	-12.72	1.80	-0.25	0.86	-0.41	0.23	-0.54	-0.52	
1	-10.60	1.80	0.03	-0.02	-0.13	0.44	-0.63	-0.35	
2	-8.48	1.80	0.14	-0.13	-0.03	0.24	-0.52	-0.25	
3	-6.36	1.80	-0.02	0.12	0.22	0.29	-0.69	0.06	
4	-4.24	1.80	-0.02	0.30	0.30	0.21	-0.58	-0.07	
5	-2.12	1.80	0.40	0.42	0.24	0.67	-0.33	-0.07	
6	0.00	1.80	0.11	0.25	0.17	0.72	-0.24	0.05	
7	2.12	1.80	0.54	0.15	0.46	0.63	-0.15	0.13	
8	4.24	1.80	0.24	-0.09	0.11	0.22	-0.25	0.22	
9	6.36	1.80	0.35	0.10	0.08	0.19	-0.19	0.29	
10	8.48	1.80	0.39	0.27	0.18	-0.04	0.04	-0.05	
11	10.60	1.80	-0.02	0.47	-0.26	-0.10	0.07	-0.04	
12	12.72	1.80	-0.08	-0.20	-0.46	-0.45	0.37	-0.23	
13	-12.72	0.90	-0.40	0.62	-0.67	0.44	-0.63	-0.42	
14	-10.60	0.90	-0.18	0.28	0.20	0.21	-0.82	-0.27	

15	-8.48	0.90	-0.13	0.18	0.27	0.13	-0.48	-0.22	
16	-6.36	0.90	-0.32	0.31	0.01	0.24	-0.40	-0.25	
17	-4.24	0.90	0.10	0.48	0.21	0.39	-0.07	-0.24	
18	-2.12	0.90	0.22	0.46	0.11	0.44	0.11	-0.37	
19	0.00	0.90	0.20	0.17	0.03	0.82	0.08	-0.24	
20	2.12	0.90	0.42	-0.05	0.35	0.65	0.15	-0.41	
21	4.24	0.90	0.08	-0.10	0.32	0.52	0.14	-0.03	
22	6.36	0.90	0.08	0.24	0.35	0.39	0.11	0.05	
23	8.48	0.90	0.03	-0.01	-0.05	-0.00	-0.01	0.18	
24	10.60	0.90	-0.29	0.16	-0.20	-0.05	0.08	-0.02	
25	12.72	0.90	-0.07	-0.05	-0.23	0.03	0.31	-0.22	
26	-12.72	-0.00	-0.11	0.29	-0.51	0.18	-0.82	-0.64	
27	-10.60	-0.00	-0.09	0.09	-0.01	0.18	-0.77	-0.32	
28	-8.48	-0.00	-0.48	0.44	0.19	-0.06	-0.40	-0.33	
29	-6.36	-0.00	-0.38	0.52	0.25	-0.15	-0.24	-0.51	
30	-4.24	-0.00	-0.25	0.42	0.01	-0.09	0.13	-0.59	
31	-2.12	-0.00	-0.26	0.07	0.13	0.19	0.21	-0.61	
32	0.00	-0.00	-0.75	0.14	0.07	-0.32	0.08	-0.38	
33	2.12	-0.00	-0.12	0.07	0.36	0.12	0.30	-0.49	
34	4.24	-0.00	-0.05	-0.19	0.51	0.17	0.48	-0.36	
35	6.36	-0.00	-0.02	-0.21	0.21	-0.03	0.31	-0.08	
36	8.48	-0.00	-0.09	-0.18	0.10	0.13	-0.04	0.20	
37	10.60	-0.00	-0.09	0.09	-0.12	-0.07	0.04	0.08	
38	12.72	-0.00	-0.00	-0.17	-0.29	-0.11	0.13	-0.20	
39	-12.72	-0.90	0.13	0.34	-0.63	0.09	-0.91	-0.49	
40	-10.60	-0.90	0.12	-0.01	-0.07	-0.35	-1.03	-0.41	
41	-8.48	-0.90	0.02	0.13	0.14	-0.35	-0.57	-0.30	
42	-6.36	-0.90	-0.12	0.49	0.01	-0.23	-0.33	-0.31	
43	-4.24	-0.90	-0.01	0.09	-0.02	-0.32	-0.14	-0.44	
44	-2.12	-0.90	-0.37	-0.19	0.15	-0.52	0.18	-0.49	
45	0.00	-0.90	-0.56	0.09	0.18	-0.54	0.06	-0.49	
46	2.12	-0.90	-0.18	0.27	0.26	-0.39	0.19	-0.52	
47	4.24	-0.90	0.13	0.20	0.52	-0.07	0.27	-0.15	
48	6.36	-0.90	0.14	-0.43	0.35	-0.11	0.11	0.03	
49	8.48	-0.90	0.04	0.14	0.14	0.00	-0.19	0.05	
50	10.60	-0.90	-0.04	-0.13	-0.00	0.07	-0.18	0.00	
51	12.72	-0.90	0.08	-0.01	0.14	0.13	0.07	0.00	
52	-12.72	-1.80	0.35	0.22	-0.59	0.11	-0.92	-0.58	
53	-10.60	-1.80	0.33	-0.08	0.02	-0.42	-1.09	-0.26	
54	-8.48	-1.80	0.12	0.23	0.20	-0.56	-0.80	-0.16	
55	-6.36	-1.80	0.03	0.18	0.15	-0.29	-0.42	-0.37	
56	-4.24	-1.80	0.00	-0.45	0.31	-0.85	-0.65	-0.18	
57	-2.12	-1.80	-0.13	-0.28	0.18	-0.45	-0.22	-0.52	
58	0.00	-1.80	-0.42	0.13	-0.01	-0.79	-0.13	-0.53	

59	2.12	-1.80	0.01	0.42	0.45	-0.39	-0.14	-0.28	
60	4.24	-1.80	0.18	0.53	0.15	-0.59	-0.40	-0.07	
61	6.36	-1.80	0.25	-0.27	0.37	-0.08	-0.07	0.04	
62	8.48	-1.80	0.35	-0.15	0.12	0.03	-0.42	0.14	
63	10.60	-1.80	0.17	-0.27	-0.19	0.00	-0.59	0.18	
64	12.72	-1.80	0.28	-0.16	-0.12	-0.01	-0.03	-0.10	

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