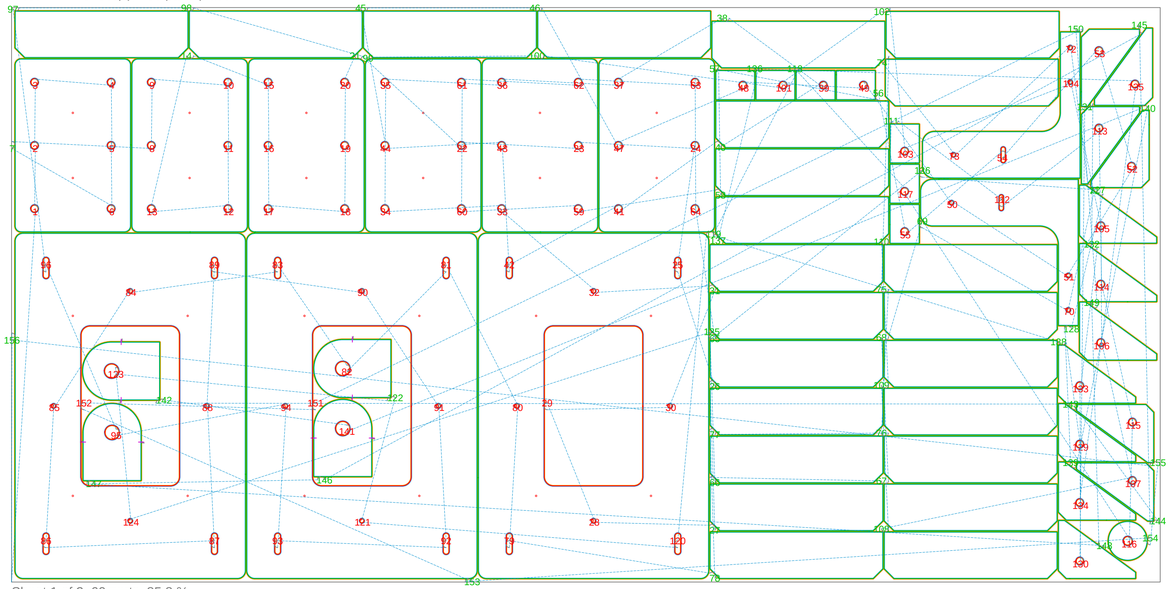
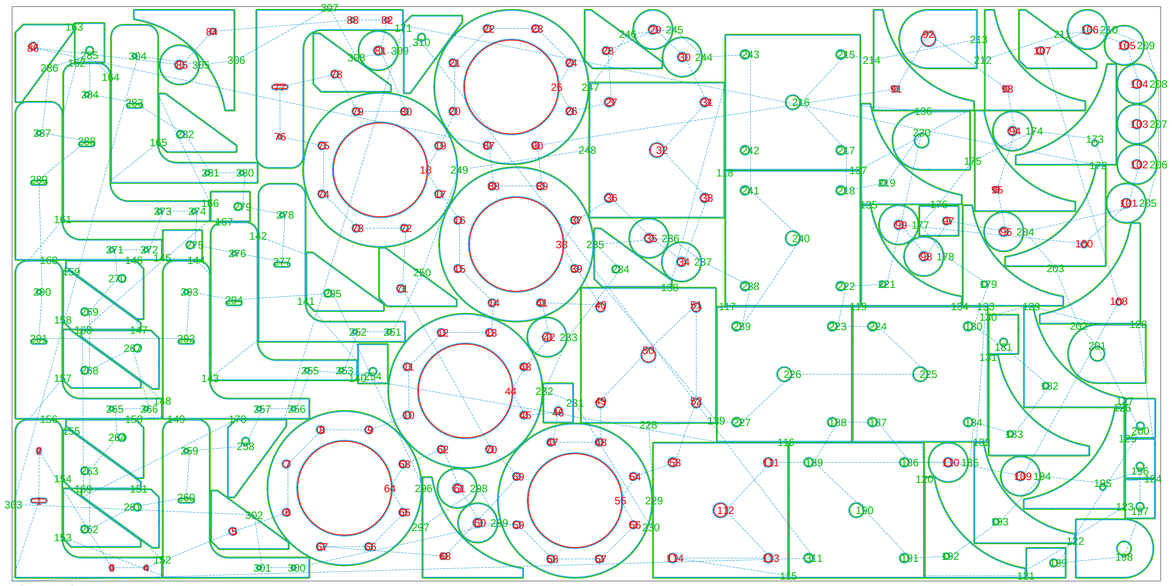




S1 JOB 25760: S275 10 MM SHEET 1, HD PLASMA (POST PLASMA-THC)

THE TWO JOBS (CNCSIM, CNCREPORT, CNCSIM REMOVAL, CNCCOST AT EXAMPLE RATES)

Sheet	Job	Machine (demo profile), post	Cuts	Pierces	Cut m	Rapids m	Time	Sheet left	Cost
S1	25760	Harrow 3015 HD plasma, plasma-thc	156	164	75.32	79.04	64 min 53 s	96.8 %	£588.07
S2	57457	Harrow 3015 plasma, Mach3, mach3	311	311	84.01	55.39	67 min 51 s	96.4 %	£648.50

SETTINGS (CNCPROPS)

Setting	S1 (job 25760)	S2 (job 57457)
Cut chart	plasma-s275-10-85a	plasma-s275-10-85a
Kerf	2 mm, offset by plugin	none: on the line
Feed	1350 mm/min (edited)	1400 mm/min
Pierce	4.5 mm for 0.8 s	4.5 mm for 0.8 s
Cut height, power	1.8 mm, 85 A	1.8 mm, 85 A
Leads	arc 8 mm, searched	line 4 mm, open leads
Start	corner	corner
Heat control	300 mm	off
Tabs	8 on 4 lugs, 3 mm left	none
Overcut	2 mm	0
Small holes	to 25 mm, 60 % feed	off
Work origin	(20400, -350)	(23700, -350)
Sheet	3000 x 1500, corners	3000 x 1500, Setup
Part names	156 of 156, Nesting	311 of 311, Nesting

S1 PART COSTS BY KIND

Part	Qty	Each	Total
BP-02	6	£20.01	£120.08
ST-01	24	£7.72	£185.29
PK-01	7	£2.35	£16.47
GU-01	13	£3.79	£49.28
LG-01	4	£5.63	£22.52
MP-01	3	£56.45	£169.34
CB-01	2	£11.37	£22.74
WS-01	1	£2.36	£2.36
Job	60		£588.07

S1: machine £91.91, setup £28.33, consumables £98.82, material £369.00: the whole sheet, shared by area. Example rates: £85/h, £0.35 a pierce, £0.55 a metre, £82 a m2, setup 20 min.

S1 CUTTING ORDER, CUTS 1 TO 22 (CNCREPORT)

No.	Shape	Part	Side	Length mm	Pierces	Time
1	32	BP-02 copy 1	inside	90.0	1	0 min 10 s
2	33	BP-02 copy 1	inside	90.0	1	0 min 08 s
3	34	BP-02 copy 1	inside	90.0	1	0 min 08 s
4	37	BP-02 copy 1	inside	90.0	1	0 min 08 s
5	36	BP-02 copy 1	inside	90.0	1	0 min 08 s
6	35	BP-02 copy 1	inside	90.0	1	0 min 08 s
7	31	BP-02 copy 1	outside	1507.7	1	1 min 09 s
8	40	BP-02 copy 2	inside	90.0	1	0 min 09 s
9	41	BP-02 copy 2	inside	90.0	1	0 min 08 s
10	44	BP-02 copy 2	inside	90.0	1	0 min 08 s
11	43	BP-02 copy 2	inside	90.0	1	0 min 08 s
12	42	BP-02 copy 2	inside	90.0	1	0 min 08 s
13	39	BP-02 copy 2	inside	90.0	1	0 min 08 s
14	38	BP-02 copy 2	outside	1507.7	1	1 min 09 s
15	48	BP-02 copy 3	inside	90.0	1	0 min 08 s
16	47	BP-02 copy 3	inside	90.0	1	0 min 08 s
17	46	BP-02 copy 3	inside	90.0	1	0 min 08 s
18	49	BP-02 copy 3	inside	90.0	1	0 min 08 s
19	50	BP-02 copy 3	inside	90.0	1	0 min 08 s
20	51	BP-02 copy 3	inside	90.0	1	0 min 08 s
21	45	BP-02 copy 3	outside	1507.7	1	1 min 08 s
22	57	BP-02 copy 4	inside	90.0	1	0 min 08 s

CUTS 145 TO 156: LUGS BEFORE THEIR CUT-OUTS

No.	Shape	Part	Side	Length mm	Pierces	Time
145	123	GU-01 copy 9	outside	630.7	1	0 min 33 s
146	139	LG-01 copy 3	outside	669.0	3	0 min 40 s
147	135	LG-01 copy 1	outside	671.0	3	0 min 34 s
148	107	GU-01 copy 1	outside	630.7	1	0 min 37 s
149	115	GU-01 copy 5	outside	630.7	1	0 min 31 s
150	102	CB-01 copy 2	outside	1566.2	1	1 min 13 s
151	12	MP-01 copy 2	inside	1337.9	1	1 min 07 s
152	2	MP-01 copy 1	inside	1337.9	1	1 min 02 s
153	11	MP-01 copy 2	outside	2999.1	1	2 min 17 s
154	133	WS-01 copy 1	outside	347.6	1	0 min 22 s
155	131	GU-01 copy 13	outside	630.7	1	0 min 30 s
156	1	MP-01 copy 1	outside	2999.1	1	2 min 23 s

S2 CUTTING ORDER, CUTS 1 TO 20 (COMMON LINES)

No.	Shape	Part	Side	Length mm	Pierces	Time
1	3	CB-01 copy 3	on the line	96.3	1	0 min 06 s
2	2	CB-01 copy 3	on the line	36.3	1	0 min 03 s
3	4	CB-01 copy 3	on the line	36.3	1	0 min 04 s
4	5	CB-01 copy 3	on the line	36.3	1	0 min 03 s
5	205	GU-01 copy 19	on the line	61.4	1	0 min 04 s
6	58	FL-01 copy 1	on the line	61.4	1	0 min 04 s
7	57	FL-01 copy 1	on the line	61.4	1	0 min 04 s
8	56	FL-01 copy 1	on the line	61.4	1	0 min 04 s
9	55	FL-01 copy 1	on the line	61.4	1	0 min 04 s
10	78	FL-01 copy 3	on the line	61.4	1	0 min 04 s
11	77	FL-01 copy 3	on the line	61.4	1	0 min 04 s
12	76	FL-01 copy 3	on the line	61.4	1	0 min 04 s
13	75	FL-01 copy 3	on the line	61.4	1	0 min 04 s
14	99	FL-01 copy 5	on the line	61.4	1	0 min 04 s
15	98	FL-01 copy 5	on the line	61.4	1	0 min 04 s
16	97	FL-01 copy 5	on the line	61.4	1	0 min 04 s
17	71	FL-01 copy 2	on the line	61.4	1	0 min 04 s
18	63	FL-01 copy 2	on the line	777.7	1	0 min 34 s
19	64	FL-01 copy 2	on the line	61.4	1	0 min 04 s
20	88	FL-01 copy 4	on the line	61.4	1	0 min 04 s

S1 G-CODE: LUG, TWO TABS

```
(Cut 147: shape 135 LG-01 copy 1 #8050, outs...
G00 X214.774 Y256.5
G00 Z4.5
M3
G4 P0.8
G01 Z1.8 F1350
G03 X206.774 Y264.5 I-8 J0 F1350
G01 X187.5 Y264.5 F1350
G02 X186.793 Y264.793 I0 J1 F1350
G02 X186.5 Y265.5 I0.707 J0.707 F1350
G01 X186.5 Y363 F1350
M5
G00 Z4.5
G00 X182.5 Y368
G00 Z4.5
M3
G4 P0.8
G01 Z1.8 F1350
G01 X186.5 Y368 F1350
G01 X186.5 Y390.5 F1350
G02 X338.5 Y390.5 I76 J0 F1350
G01 X338.5 Y368 F1350
M5
G00 Z4.5
G00 X346.5 Y363
G00 Z4.5
M3
G4 P0.8
G01 Z1.8 F1350
G01 X338.5 Y363 F1350
G01 X338.5 Y265.5 F1350
```

S1: SMALL HOLE, OVERCUT

```
(Cut 1: shape 32 BP-02 copy 1 #7935, inside,...
G00 X62 Y967
G00 Z4.5
M3
G4 P0.8
G01 Z1.8 F810
G03 X70 Y975 I0 J8 F810
G03 X50 Y975 I-10 J0 F810
G03 X70 Y975 I10 J0 F810
G03 X69.801 Y976.987 I-10 J0 F810
G03 X60.371 Y983.238 I-7.841 J-1.589 F810
M5
```

S2: AN OPEN CUT

```
(Cut 115: shape 150 BP-01 copy 7 #8718, open)
G00 X2027.8776 Y14
G00 Z4.5
M3
G4 P0.8
G01 Z1.8 F1400
G01 X2027.8776 Y10 F1400
G03 X2030.3776 Y7.5 I2.5 J0 F1400
G01 X2380.3776 Y7.5 F1400
G03 X2382.8776 Y10 I0 J2.5 F1400
G01 X2382.8776 Y360 F1400
G03 X2380.3776 Y362.5 I-2.5 J0 F1400
G01 X2192.0457 Y362.5 F1400
G01 X2188.0457 Y362.5 F1400
M5
```

CNCPROPS PRINTOUT, JOB 25760

CNCPROPS at the command line prints every value with its key, then the figures, warnings, work origin and out-of-date state (S1, before NumberHeight 18 was set):

```
Machine: Harrow Lane 3015 HD plasma, torch height control (demo profile) (pl...
Cut chart: plasma-s275-10-85a (example values: replace from your machine's c...
Kerf or tool diameter: 2 mm [Kerf]
Feed: 1350 mm/min [Feed]
Plunge feed (0: the feed): 0 mm/min [PlungeFeed]
Pierce or safe height: 4.5 mm [PierceHeight]
Pierce delay: 0.8 s [PierceDelay]
Cut height or depth: 1.8 mm [CutHeight]
Power or amperage: 85 [Power]
Tab width (material left): 3 mm [TabWidth]
Lead type: Arc [LeadType]
Lead length: 8 mm [LeadLength]
Leads on open cuts: No [OpenLeads]
Find a start with room for the lead: Yes [LeadSearch]
Lead into the cut after each tab: Yes [TabLeads]
Overcut (0: none): 2 mm [Overcut]
Small holes up to (0: none): 25 mm [SmallHole]
Small-hole feed: 60 % [SmallHoleFeed]
Corner feed (0: off): 0 % [CornerSlow]
Corner angle: 30 deg [CornerAngle]
Corner distance: 2 mm [CornerDistance]
Cut number height (0: to suit): 0 mm [NumberHeight]
Show rapids: Yes [ShowRapids]
Work origin (X0 Y0): (20400, -350) in the drawing (CNCEDIT Origin)
Sheet: 4-point outline; leads kept on it (CNCEDIT Sheet)
Step-down (0: one pass): 0 mm [StepDown]
Final pass (0: equal passes): 0 mm [FinalPass]
Pocket stepover (0: 40% of the tool): 0 mm [Stepover]
Peck depth (0: one plunge): 0 mm [Peck]
Heat control (0: off): 300 mm [HeatDistance]
Ramp angle (0: straight plunges): 0 degrees [RampAngle]
Helical entries (pockets, profiles): No [HelixEntry]
Kerf offset by the controller (G41/G42): No [ControllerComp]
Depth passes: one pass
Figures: 156 cuts, 0 drill holes, 164 pierces, cut 75.32 m, about 64 min 53 s
Warnings: None
Out of date: No
```

WHAT THE PLUGIN SAID

CNCPATH (S1): "Job 25760: 156 cuts, 0 drill holes, about 63 min 11 s."
"Sheet: 3000 x 1500 mm from (20400, -350); 1 cut's lead was changed to stay on the sheet." "Part names: 156 from True-Shape Nesting (of 156 cuts)."

CNCEDIT Tabs: "Tab added on shape 135 LG-01 copy 1 #8050 (cut 33 of 156) at (20738.5, 15.5); it has 2 tabs, each leaving 3 mm of material." The torch stops for 5 mm (tab plus kerf) and comes back in on a short lead.

CNCEDIT Order, three BP-02 plates picked: " ... each after the holes inside it, the rest in the automatic order." They are now cuts 7, 14 and 21, each after its own six holes.

CNCEDIT Origin: "Work origin of Job 25760: (20400, -350) is X0 Y0 in its G-code and its bed check; it moves with the job."

CNCSIM Removal: S1 1447.6 cm2 cut away, 4.355 m2 of the 4.5 m2 sheet left (96.8 %, 1.73 mm cells); S2 1613.6 cm2 cut away (96.4 %).

S2 made with the setup's sheet at the drawing origin: "311 cuts run off the sheet." After CNCEDIT Origin and Sheet Setup: "every lead fits on the sheet." CNCSIM: "No warnings." G-code head: "Kerf offset: none, every cut runs on its shape's line".

S1 G-CODE HEAD (PLASMA-THC POST)

Generated by Stratal CAD CNC Cut. Check in your controller's preview and dry-run before cutting.
Job 25760 [Harrow Lane 3015 HD plasma, torch height control [demo profile], post plasma-thc]: 156 cuts, 0 drill holes, kerf 2 mm, feed 1350 mm/min
Machine: Harrow Lane 3015 HD plasma, torch height control [demo profile] [plasma], post plasma-thc
Cut chart: plasma-s275-10-85a, S275 mild steel 10 mm [example values: replace from your machine's cut chart]
Tool or kerf: 2 mm; feed 1350 mm/min; plunge feed 1350 mm/min
Pierce or safe height: 4.5 mm; pierce delay 0.8 s; cut height or depth: 1.8 mm; power 85
Depth passes: one pass
Kerf offset: by the plugin
Work origin: drawing point [20400, -350] mm is X0 Y0
Drill holes: 0
Cuts: 156; pierces 164; cut length 75316.4 mm; rapids 79035.9 mm; estimated time 64 min 53 s

S2 G-CODE HEAD (MACH3 POST)

Generated by Stratal CAD CNC Cut. Check in your controller's preview and dry-run before cutting.
Job 57457 [Harrow Lane 3015 plasma on its Mach3 controller [demo profile], post mach3]: 311 cuts, 0 drill holes, kerf 2 mm, feed 1400 mm/min
Machine: Harrow Lane 3015 plasma on its Mach3 controller [demo profile] [plasma], post mach3
Cut chart: plasma-s275-10-85a, S275 mild steel 10 mm [example values: replace from your machine's cut chart]
Tool or kerf: 2 mm; feed 1400 mm/min; plunge feed 1400 mm/min
Pierce or safe height: 4.5 mm; pierce delay 0.8 s; cut height or depth: 1.8 mm; power 85
Depth passes: one pass
Kerf offset: none, every cut runs on its shape's line [Side On or open cuts]
Work origin: drawing point [23700, -350] mm is X0 Y0
Drill holes: 0
Cuts: 311; pierces 311; cut length 84007.6 mm; rapids 55390.6 mm; estimated time 67 min 51 s

S1 CUTS WITH A NOTE (23 OF 156)

No.	Part	Note in the setup sheet (CNCREPORT)
28	MP-01 copy 3	lead shortened to 4 mm: another cut is close
30	MP-01 copy 3	lead shortened to 4 mm: another cut is close
32	MP-01 copy 3	lead shortened to 4 mm: another cut is close
50	CB-01 copy 1	lead shortened to 4 mm: another cut is close
51	CB-01 copy 1	lead shortened to 4 mm: another cut is close
57	PK-01 copy 1	lead shortened to 4 mm: another cut is close
70	CB-01 copy 1	lead shortened to 4 mm: another cut is close
72	CB-01 copy 2	lead shortened to 4 mm: another cut is close
73	CB-01 copy 2	lead shortened to 4 mm: another cut is close
80	MP-01 copy 3	lead shortened to 4 mm: another cut is close
84	MP-01 copy 1	lead shortened to 4 mm: another cut is close
85	MP-01 copy 1	lead shortened to 4 mm: another cut is close
88	MP-01 copy 1	lead shortened to 4 mm: another cut is close
90	MP-01 copy 2	lead shortened to 4 mm: another cut is close
91	MP-01 copy 2	lead shortened to 4 mm: another cut is close
94	MP-01 copy 2	lead shortened to 4 mm: another cut is close
97	ST-01 copy 1	lead kept on the sheet: turned square to the path
99	BP-02 copy 4	lead shortened to 4 mm: another cut is close
104	CB-01 copy 2	lead shortened to 4 mm: another cut is close
118	PK-01 copy 3	lead shortened to 4 mm: another cut is close
121	MP-01 copy 2	lead shortened to 4 mm: another cut is close
124	MP-01 copy 1	lead shortened to 4 mm: another cut is close
136	PK-01 copy 2	lead shortened to 4 mm: another cut is close

NOTES

1. The toolpaths are the CNC Cut & G-code job objects drawn by the plugin over True-Shape Nesting's parts: green cut paths with lead-ins, cut numbers in cutting order, blue dashed rapids, magenta tab bars.
2. S1 is cut on the parts' own outlines with the kerf offset by the plugin; S2 on Nesting's common-line paths (Side On, open cuts with leads).
3. Each job's work origin is its sheet's lower-left corner (X0 Y0 in the G-code); the sheet is given to the job so every lead stays on it.
4. Cut charts, machine profiles and rates are my example values (my library), not a maker's chart or a price list.

Stratal CAD
cad.stratal.co.uk

TITLE
HLF-2614 S275 10 MM SHEETS 1 AND 2
HD PLASMA AND COMMON-LINE PLASMA

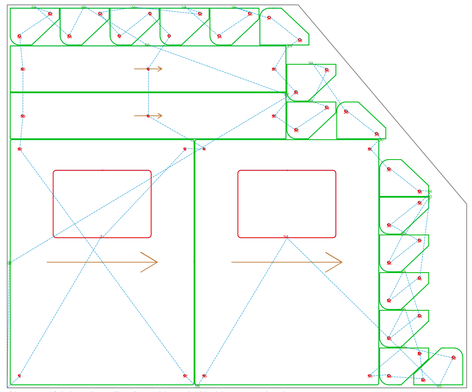
PROJECT	DRAWN
HLF-2614 / HL9 kitchen (fictional)	Stratal CAD demo

DRAWING NO.	SHEET	SCALE	SIZE
STR-CNC-001	1 of 5	1:8	A1

SOFTWARE	DATE
Stratal CAD 0.1.8, CNC Cut & G-code 0.9.0	12 Nov 2026

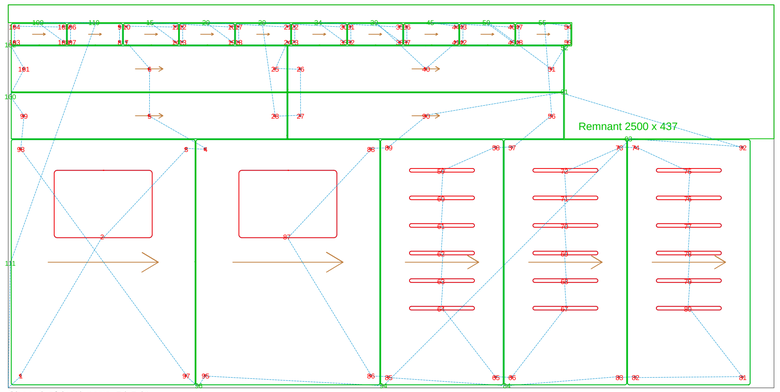
STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

Nest 207: 3 sheet(s), 44 parts placed



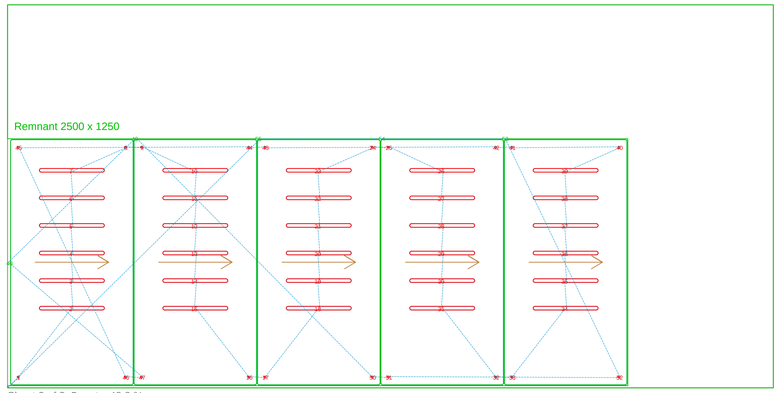
Sheet 1 of 3 (stock outline in 1500 x 1250): 20 parts, 78.4 %

L1 OFFCUT, JOB 63872



Sheet 2 of 3: 19 parts, 76.7 %

L2 SHEET 2, JOB 66052



Sheet 3 of 3: 5 parts, 48.8 %

L3 SHEET 3, JOB 67907

THE THREE LASER JOBS (CNCSIM, CNCREPORT, CNCSIM REMOVAL, CNCCOST AT EXAMPLE RATES)

Sheet	Job	Machine (demo profile), post	Cuts	Pierces	Cut m	Rapids m	Time	Sheet left	Cost
L1	63872	Harrow 3015 fibre laser, laser	68	68	21.50	11.35	6 min 30 s	99.8 %	£221.13
L2	66052	Harrow 3015 fibre laser, laser	111	111	37.95	17.63	11 min 10 s	99.8 %	£371.32
L3	67907	Harrow 3015 fibre laser, laser	55	55	25.88	12.43	7 min 27 s	99.8 %	£360.20

SETTINGS (CNCPROPS)

Setting	L1 to L3
Cut chart	laser-304-2-n4
Kerf	0.2 mm, offset by plugin
Feed	3800 mm/min
Pierce delay	0.3 s
Power	3000 W
Leads	arc 3 mm, searched
Start	middle of a straight
Overcut	0.5 mm
Small holes	to 12 mm at 70 % feed
Corner slowdown	60 % feed, 2 mm, 30 deg
Work origin	each sheet's corner
Sheet	L1 outline, L2-L3 corners
Part names	234 of 234, Nesting

L2 G-CODE: CORNERS AT 60 % FEED

```
(Cut 52: shape 58 KP-01 copy 6 #6237, outside, 4 corne...
G0 X1816.1 Y1109.645
M4 S3000
G4 P0.3
G3 X1813.1 Y1106.645 I0 J-3 F3800
G1 X1813.1 Y968 F3800
G1 X1813.1 Y966 F2280
G2 X1813 Y965.9 I-0.1 J0 F2280
G1 X1811 Y965.9 F2280
G1 X915 Y965.9 F3800
G1 X913 Y965.9 F2280
G2 X912.9 Y966 I0 J0.1 F2280
G1 X912.9 Y968 F2280
G1 X912.9 Y1114 F3800
G1 X912.9 Y1116 F2280
G2 X913 Y1116.1 I0.1 J0 F2280
G1 X915 Y1116.1 F2280
G1 X1363 Y1116.1 F3800
G1 X1811 Y1116.1 F3800
G1 X1813 Y1116.1 F2280
G2 X1813.1 Y1116 I0 J-0.1 F2280
G1 X1813.1 Y1114 F2280
G1 X1813.1 Y1106.645 F3800
```

L1 PART COSTS

Part	Qty	Each	Total
HB-01	16	£2.86	£45.76
DP-01	2	£65.44	£130.89
KP-01	2	£22.24	£44.48
Job	20		£221.13

L3 PART COSTS

Part	Qty	Each	Total
SC-01	5	£72.04	£360.20
Job	5		£360.20

L2: 5.8 MM HOLE AT 70 % FEED

```
(Cut 5: shape 48 KP-01 copy 3 #6224, inside, small hol...
G0 X461.4 Y886.5
M4 S3000
G4 P0.3
G3 X462.9 Y888 I0 J1.5 F2660
G3 X457.1 Y888 I-2.9 J0 F2660
G3 X462.9 Y888 I2.9 J0 F2660
G3 X462.857 Y888.498 I-2.9 J0 F2660
G3 X461.122 Y889.718 I-1.478 J-0.257 F2660
M5
```

L2 PART COSTS

Part	Qty	Each	Total
NP-01	10	£2.43	£24.35
KP-01	4	£20.79	£83.16
SC-01	3	£47.23	£141.70
DP-01	2	£61.06	£122.11
Job	19		£371.32

L2 CUTTING ORDER, CUTS 1 TO 30 (CNCREPORT)

No.	Shape	Part	Side	Length mm	Pierces	Time
1	3	DP-01 copy 3	inside	23.4	1	0 min 01 s
2	2	DP-01 copy 3	inside	1072.1	1	0 min 18 s
3	6	DP-01 copy 3	inside	23.4	1	0 min 01 s
4	10	DP-01 copy 4	inside	23.4	1	0 min 01 s
5	48	KP-01 copy 3	inside	23.4	1	0 min 01 s
6	52	KP-01 copy 4	inside	23.4	1	0 min 01 s
7	73	NP-01 copy 3	inside	18.7	1	0 min 01 s
8	70	NP-01 copy 2	inside	18.7	1	0 min 01 s
9	71	NP-01 copy 2	inside	18.7	1	0 min 01 s
10	74	NP-01 copy 3	inside	18.7	1	0 min 01 s
11	76	NP-01 copy 3	inside	18.7	1	0 min 01 s
12	79	NP-01 copy 4	inside	18.7	1	0 min 01 s
13	78	NP-01 copy 4	inside	18.7	1	0 min 01 s
14	75	NP-01 copy 3	inside	18.7	1	0 min 01 s
15	72	NP-01 copy 3	outside	502.0	1	0 min 08 s
16	81	NP-01 copy 4	inside	18.7	1	0 min 01 s
17	84	NP-01 copy 5	inside	18.7	1	0 min 01 s
18	83	NP-01 copy 5	inside	18.7	1	0 min 01 s
19	80	NP-01 copy 4	inside	18.7	1	0 min 01 s
20	77	NP-01 copy 4	outside	502.0	1	0 min 08 s
21	86	NP-01 copy 5	inside	18.7	1	0 min 01 s
22	89	NP-01 copy 6	inside	18.7	1	0 min 01 s
23	88	NP-01 copy 6	inside	18.7	1	0 min 01 s
24	85	NP-01 copy 5	inside	18.7	1	0 min 01 s
25	53	KP-01 copy 4	inside	23.4	1	0 min 01 s
26	59	KP-01 copy 6	inside	23.4	1	0 min 01 s
27	55	KP-01 copy 5	inside	23.4	1	0 min 01 s
28	49	KP-01 copy 3	inside	23.4	1	0 min 01 s
29	82	NP-01 copy 5	outside	502.0	1	0 min 09 s
30	91	NP-01 copy 6	inside	18.7	1	0 min 01 s

L2 CUTS 31 TO 60

No.	Shape	Part	Side	Length mm	Pierces	Time
31	94	NP-01 copy 7	inside	18.7	1	0 min 01 s
32	93	NP-01 copy 7	inside	18.7	1	0 min 01 s
33	90	NP-01 copy 6	inside	18.7	1	0 min 01 s
34	87	NP-01 copy 6	outside	502.0	1	0 min 08 s
35	96	NP-01 copy 7	inside	18.7	1	0 min 01 s
36	99	NP-01 copy 8	inside	18.7	1	0 min 01 s
37	98	NP-01 copy 8	inside	18.7	1	0 min 01 s
38	95	NP-01 copy 7	inside	18.7	1	0 min 01 s
39	92	NP-01 copy 7	outside	502.0	1	0 min 08 s
40	60	KP-01 copy 6	inside	23.4	1	0 min 01 s
41	100	NP-01 copy 8	inside	18.7	1	0 min 01 s
42	103	NP-01 copy 9	inside	18.7	1	0 min 01 s
43	104	NP-01 copy 9	inside	18.7	1	0 min 01 s
44	101	NP-01 copy 8	inside	18.7	1	0 min 01 s
45	97	NP-01 copy 8	outside	502.0	1	0 min 08 s
46	106	NP-01 copy 9	inside	18.7	1	0 min 01 s
47	109	NP-01 copy 10	inside	18.7	1	0 min 01 s
48	108	NP-01 copy 10	inside	18.7	1	0 min 01 s
49	105	NP-01 copy 9	inside	18.7	1	0 min 01 s
50	102	NP-01 copy 9	outside	502.0	1	0 min 08 s
51	61	KP-01 copy 6	inside	23.4	1	0 min 01 s
52	58	KP-01 copy 6	outside	2110.6	1	0 min 34 s
53	110	NP-01 copy 10	inside	18.7	1	0 min 01 s
54	111	NP-01 copy 10	inside	18.7	1	0 min 01 s
55	107	NP-01 copy 10	outside	502.0	1	0 min 08 s
56	57	KP-01 copy 5	inside	23.4	1	0 min 01 s
57	32	SC-01 copy 2	inside	23.4	1	0 min 01 s
58	23	SC-01 copy 1	inside	23.4	1	0 min 01 s
59	19	SC-01 copy 1	inside	447.0	1	0 min 08 s
60	18	SC-01 copy 1	inside	447.0	1	0 min 08 s

L1 CUTTING ORDER, CUTS 1 TO 36

No.	Shape	Part	Side	Length mm	Pierces	Time
1	3	DP-01 copy 1	inside	23.4	1	0 min 01 s
2	2	DP-01 copy 1	inside	1072.1	1	0 min 18 s
3	6	DP-01 copy 1	inside	23.4	1	0 min 01 s
4	10	DP-01 copy 2	inside	23.4	1	0 min 01 s
5	15	KP-01 copy 1	inside	23.4	1	0 min 01 s
6	19	KP-01 copy 2	inside	23.4	1	0 min 01 s
7	32	HB-01 copy 4	inside	34.4	1	0 min 01 s
8	28	HB-01 copy 3	inside	34.4	1	0 min 01 s
9	29	HB-01 copy 3	inside	34.4	1	0 min 01 s
10	25	HB-01 copy 2	inside	34.4	1	0 min 01 s
11	27	HB-01 copy 3	outside	506.5	1	0 min 09 s
12	31	HB-01 copy 4	inside	34.4	1	0 min 01 s
13	30	HB-01 copy 4	outside	506.5	1	0 min 09 s
14	35	HB-01 copy 5	inside	34.4	1	0 min 01 s
15	34	HB-01 copy 5	inside	34.4	1	0 min 01 s
16	33	HB-01 copy 5	outside	506.5	1	0 min 09 s
17	38	HB-01 copy 6	inside	34.4	1	0 min 01 s
18	37	HB-01 copy 6	inside	34.4	1	0 min 01 s
19	36	HB-01 copy 6	outside	506.5	1	0 min 08 s
20	20	KP-01 copy 2	inside	23.4	1	0 min 01 s
21	44	HB-01 copy 8	inside	34.4	1	0 min 01 s
22	16	KP-01 copy 1	inside	23.4	1	0 min 01 s
23	41	HB-01 copy 7	inside	34.4	1	0 min 01 s
24	40	HB-01 copy 7	inside	34.4	1	0 min 01 s
25	39	HB-01 copy 7	outside	506.5	1	0 min 09 s
26	43	HB-01 copy 8	inside	34.4	1	0 min 01 s
27	42	HB-01 copy 8	outside	506.5	1	0 min 09 s
28	47	HB-01 copy 9	inside	34.4	1	0 min 01 s
29	46	HB-01 copy 9	inside	34.4	1	0 min 01 s
30	45	HB-01 copy 9	outside	506.5	1	0 min 08 s
31	12	DP-01 copy 2	inside	23.4	1	0 min 01 s
32	65	HB-01 copy 15	inside	34.4	1	0 min 01 s
33	64	HB-01 copy 15	inside	34.4	1	0 min 01 s
34	63	HB-01 copy 15	outside	506.5	1	0 min 08 s
35	61	HB-01 copy 14	inside	34.4	1	0 min 01 s
36	62	HB-01 copy 14	inside	34.4	1	0 min 01 s

L3 CUTTING ORDER, CUTS 1 TO 36

No.	Shape	Part	Side	Length mm	Pierces	Time
1	8	SC-01 copy 4	inside	23.4	1	0 min 01 s
2	2	SC-01 copy 4	inside	447.0	1	0 min 08 s
3	3	SC-01 copy 4	inside	447.0	1	0 min 08 s
4	4	SC-01 copy 4	inside	447.0	1	0 min 08 s
5	5	SC-01 copy 4	inside	447.0	1	0 min 08 s
6	6	SC-01 copy 4	inside	447.0	1	0 min 08 s
7	7	SC-01 copy 4	inside	447.0	1	0 min 08 s
8	11	SC-01 copy 4	inside	23.4	1	0 min 01 s
9	20	SC-01 copy 5	inside	23.4	1	0 min 01 s
10	18	SC-01 copy 5	inside	447.0	1	0 min 08 s
11	17	SC-01 copy 5	inside	447.0	1	0 min 08 s
12	16	SC-01 copy 5	inside	447.0	1	0 min 08 s
13	15	SC-01 copy 5	inside	447.0	1	0 min 08 s
14	14	SC-01 copy 5	inside	447.0	1	0 min 08 s
15	13	SC-01 copy 5	inside	447.0	1	0 min 08 s
16	21	SC-01 copy 5	inside	23.4	1	0 min 01 s
17	30	SC-01 copy 6	inside	23.4	1	0 min 01 s
18	24	SC-01 copy 6	inside	447.0	1	0 min 08 s
19	25	SC-01 copy 6	inside	447.0	1	0 min 08 s
20	26	SC-01 copy 6	inside	447.0	1	0 min 08 s
21	27	SC-01 copy 6	inside	447.0	1	0 min 08 s
22	28	SC-01 copy 6	inside	447.0	1	0 min 08 s
23	29	SC-01 copy 6	inside	447.0	1	0 min 08 s
24	33	SC-01 copy 6	inside	23.4	1	0 min 01 s
25	42	SC-01 copy 7	inside	23.4	1	0 min 01 s
26	40	SC-01 copy 7	inside	447.0	1	0 min 08 s
27	39	SC-01 copy 7	inside	447.0	1	0 min 08 s
28	38	SC-01 copy 7	inside	447.0	1	0 min 08 s
29	37	SC-01 copy 7	inside	447.0	1	0 min 08 s
30	36	SC-01 copy 7	inside	447.0	1	0 min 08 s
31	35	SC-01 copy 7	inside	447.0	1	0 min 08 s
32	43	SC-01 copy 7	inside	23.4	1	0 min 01 s
33	52	SC-01 copy 8	inside	23.4	1	0 min 01 s
34	46	SC-01 copy 8	inside	447.0	1	0 min 08 s
35	47	SC-01 copy 8	inside	447.0	1	0 min 08 s
36	48	SC-01 copy 8	inside	447.0	1	0 min 08 s

L2 G-CODE HEAD (LASER POST)

```
Generated by Stratal CAD CNC Cut. Check in your controller's preview and dry-run before cutting.
Job 66052 [Harrow Lane 3015 fibre laser, 3 kW [demo profile], post laser]: 111 cuts, 0 drill holes, kerf 0.2 mm, feed 3800 mm/min
Machine: Harrow Lane 3015 fibre laser, 3 kW [demo profile] [laser], post laser
Cut chart: laser-304-2-n4, 304 stainless No. 4 2 mm [example values: replace from your machine's cut chart]
Tool or kerf: 0.2 mm; feed 3800 mm/min; plunge feed 3800 mm/min
Pierce or safe height: 0 mm; pierce delay 0.3 s; cut height or depth: 0 mm; power 3000
Depth passes: one pass
Kerf offset: by the plugin
Corner slowdown: 16 corners at 60% feed for 2 mm either side [turns of 30 degrees or more; 63.5 mm cut slower]
Work origin: drawing point [32150, -350] mm is X0 Y0
Drill holes: 0
Cuts: 111; pierces 111; cut length 37952.1 mm; rapids 17629.6 mm; estimated time 11 min 10 s
```

WHAT THE PLUGIN SAID

CNCPATH (L1) with Sheet Outline on the offcut: "Sheet: an outline of 5 points, 1500 x 1250 mm across; every lead fits on the sheet." "Part names: 68 from True-Shape Nesting (of 68 cuts)."

CNCSETUP: "corners at 60% feed for 2 mm (turns of 30 degrees or more)" came from the cut chart. The G-code head of each job counts them: L2 16 corners (63.5 mm cut slower), L1 72 corners (295.3 mm), L3 none (its parts have rounded corners).

CNCSIM Removal: L1 42.3 cm2 cut away, 1.692 of 1.696 m2 left; L2 75.1 cm2, 3.117 of 3.125 m2; L3 51.3 cm2, 3.12 of 3.125 m2 (cells of 1.12 to 1.44 mm).

CNCCOST charges the offcut L1 at its own area (1.696 m2) and sheets L2, L3 whole, shared among the parts by area: material is most of a stainless job's cost.

NOTES

1. Sheet 1 is the irregular offcut drawn in the Nesting demo: the job's sheet is its outline (CNCPATH Sheet Outline), so leads stay on the offcut.
2. Corner slowdown comes from my cut chart laser-304-2-n4 (60 % feed for 2 mm either side of turns of 30 degrees or more); rounded corners larger than the kerf are not slowed.
3. Holes up to 12 mm across are cut at 70 % feed; closed cuts overcut 0.5 mm.
4. Cut values, profile and rates are my example values, not a laser maker's chart or a price list.

Stratal CAD

cad.stratal.co.uk

TITLE
HLF-2614 304 STAINLESS 2 MM SHEETS 1-3
FIBRE LASER, CORNER SLOWDOWN

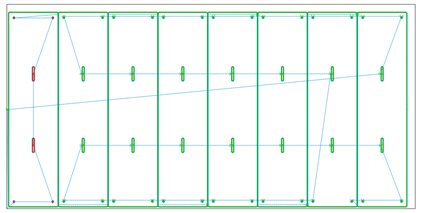
PROJECT	DRAWN
HLF-2614 / HL9 kitchen (fictional)	Stratal CAD demo

DRAWING NO.	SHEET	SCALE	SIZE
STR-CNC-002	2 of 5	1:10	A1

SOFTWARE	DATE
Stratal CAD 0.1.8, CNC Cut & G-code 0.9.0	12 Nov 2026

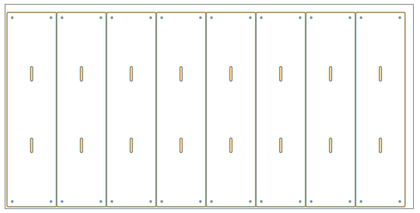
STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

Nest 243: 5 sheet(s), 44 parts placed



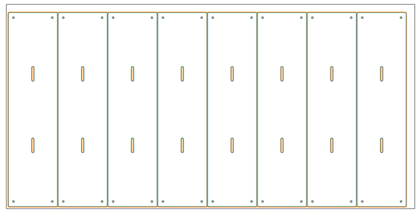
Sheet 1 of 5: 8 parts, 90.4 %

W1 SHEET 1, JOB 68956: CUT 3 TIMES

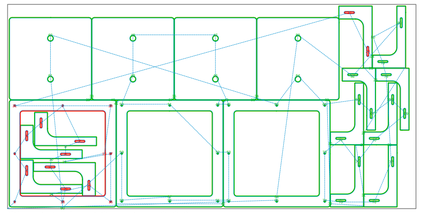


Sheet 2 of 5: 8 parts, 90.4 %

SHEETS 2 AND 3: SAME LAYOUT, PROGRAM W1

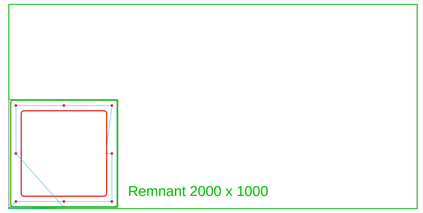


Sheet 3 of 5: 8 parts, 90.4 %



Sheet 4 of 5: 19 parts, 56.8 %

W4 SHEET 4, JOB 70669



Sheet 5 of 5: 1 parts, 4.7 %

W5 SHEET 5, JOB 72407

THE THREE WATERJET PROGRAMS (W1 RUNS ON SHEETS 1, 2 AND 3)

Sheet	Job	Machine (demo profile), post	Cuts	Pierces	Cut m	Rapids m	Time	Sheet left	Cost
W1	68956	Harrow 3020 waterjet, iso	56	56	15.76	12.50	20 min 39 s	99.2 %	£255.30
W4	70669	Harrow 3020 waterjet, iso	85	85	28.49	18.28	36 min 04 s	98.6 %	£311.11
W5	72407	Harrow 3020 waterjet, iso	10	10	4.00	2.08	4 min 55 s	99.8 %	£189.85

SETTINGS (CNCPROPS)

Setting	W1, W4 (common lines)	W5
Cut chart	waterjet-5083-5	waterjet-5083-5
Kerf	1 mm, on the line	1 mm, offset
Feed	950 mm/min	950 mm/min
Pierce	3 mm for 3 s	3 mm for 3 s
Leads	line 4 mm, open leads	line 4 mm
Start	corner	corner
Corner slowdown	40 %, 3 mm, 30 deg	40 %, 3 mm, 30 deg
Work origin	sheet corner	sheet corner
Sheet	2000 x 1000, Setup	2000 x 1000, Setup

W1: TREAD OUTLINE

(Cut 56: shape 1 TP-01 copy 1 #711...
N6910 G00 X4 Y485
N6920 G00 Z3
N6930 M03 S0
N6940 G04 X3
N6950 G01 Z2 F950
N6960 G01 X8 Y485 F950
N6970 G01 X8 Y955 F950
N6980 G02 X15 Y962 I7 J0 F950
N6990 G01 X245 Y962 F950
N7000 G02 X252 Y955 I0 J-7 F950
N7010 G01 X252 Y15 F950
N7020 G02 X245 Y8 I-7 J0 F950
N7030 G01 X15 Y8 F950
N7040 G02 X8 Y15 I0 J7 F950
N7050 G01 X8 Y485 F950
N7060 G01 X4 Y485 F950
N7070 M05

W1: 5 MM HOLE

(Cut 1: shape 3 TP-01 copy 1 #7118...
N30 G00 X35 Y33.5
N40 G00 Z3
N50 M03 S0
N60 G04 X3
N70 G01 Z2 F950
N80 G01 X35 Y37.5 F950
N90 G03 X35 Y32.5 I0 J-2.5 F950
N100 G03 X35 Y37.5 I0 J2.5 F950
N110 G01 X35 Y33.5 F950
N120 M05
N130 G00 Z3

W4: AN OPEN CUT

(Cut 24: shape 68 CT-01 copy 7 #73...
N3370 G00 X1785.909 Y746
N3380 G00 Z3
N3390 M03 S0
N3400 G04 X3
N3410 G01 Z2 F950
N3420 G01 X1785.909 Y750 F950
N3430 G02 X1787.909 Y752 I2 J0 F950
N3440 G01 X1867.909 Y752 F950
N3450 G03 X1905.909 Y790 I0 J38 F950
N3460 G01 X1905.909 Y990 F950
N3470 G02 X1907.909 Y992 I2 J0 F950
N3480 G01 X1947.909 Y992 F950
N3490 G02 X1949.909 Y990 I0 J-2 F950

W4 CUTTING ORDER, CUTS 1 TO 36

No.	Shape	Part	Side	Length mm	Pierces	Time
1	8	HF-01 copy 1	on the line	23.7	1	0 min 05 s
2	76	CT-01 copy 9	on the line	110.0	1	0 min 11 s
3	9	HF-01 copy 1	on the line	23.7	1	0 min 05 s
4	79	CT-01 copy 10	on the line	110.0	1	0 min 11 s
5	82	CT-01 copy 11	on the line	110.0	1	0 min 10 s
6	7	HF-01 copy 1	on the line	23.7	1	0 min 05 s
7	81	CT-01 copy 11	on the line	110.0	1	0 min 11 s
8	80	CT-01 copy 11	on the line	923.4	1	1 min 02 s
9	78	CT-01 copy 10	on the line	110.0	1	0 min 10 s
10	77	CT-01 copy 10	on the line	923.4	1	1 min 02 s
11	84	CT-01 copy 12	on the line	110.0	1	0 min 10 s
12	75	CT-01 copy 9	on the line	110.0	1	0 min 11 s
13	6	HF-01 copy 1	on the line	23.7	1	0 min 05 s
14	74	CT-01 copy 9	on the line	923.4	1	1 min 02 s
15	85	CT-01 copy 12	on the line	110.0	1	0 min 11 s
16	3	HF-01 copy 1	on the line	23.7	1	0 min 05 s
17	4	HF-01 copy 1	on the line	23.7	1	0 min 06 s
18	83	CT-01 copy 12	on the line	923.4	1	1 min 03 s
19	2	HF-01 copy 1	on the line	1649.7	1	1 min 48 s
20	5	HF-01 copy 1	on the line	23.7	1	0 min 06 s
21	10	HF-01 copy 1	on the line	23.7	1	0 min 07 s
22	57	CT-01 copy 3	on the line	110.0	1	0 min 20 s
23	56	CT-01 copy 3	on the line	110.0	1	0 min 11 s
24	68	CT-01 copy 7	open	847.7	1	0 min 57 s
25	58	CT-01 copy 4	open	883.4	1	0 min 59 s
26	71	CT-01 copy 8	open	716.8	1	0 min 49 s
27	65	CT-01 copy 6	open	700.3	1	0 min 50 s
28	64	CT-01 copy 6	open	131.1	1	0 min 12 s
29	52	CT-01 copy 2	open	700.3	1	0 min 47 s
30	51	CT-01 copy 2	open	131.1	1	0 min 12 s
31	61	CT-01 copy 5	open	863.4	1	0 min 59 s
32	48	CT-01 copy 1	open	873.4	1	0 min 59 s
33	45	HC-01 copy 4	open	868.0	1	1 min 01 s
34	44	HC-01 copy 4	open	30.0	1	0 min 07 s
35	41	HC-01 copy 3	open	826.0	1	0 min 55 s
36	40	HC-01 copy 3	open	30.0	1	0 min 07 s

W4 CUTS 37 TO 72

No.	Shape	Part	Side	Length mm	Pierces	Time
37	36	HC-01 copy 2	open	826.0	1	0 min 55 s
38	35	HC-01 copy 2	open	30.0	1	0 min 07 s
39	31	HC-01 copy 1	open	1224.0	1	1 min 20 s
40	34	HC-01 copy 2	open	32.0	1	0 min 08 s
41	11	HF-01 copy 2	open	1583.4	1	1 min 43 s
42	21	HF-01 copy 3	open	1583.4	1	1 min 46 s
43	39	HC-01 copy 3	open	32.0	1	0 min 05 s
44	15	HF-01 copy 2	on the line	23.7	1	0 min 05 s
45	30	HF-01 copy 3	on the line	23.7	1	0 min 05 s
46	42	HC-01 copy 3	on the line	89.7	1	0 min 10 s
47	43	HC-01 copy 3	on the line	89.7	1	0 min 10 s
48	38	HC-01 copy 2	on the line	89.7	1	0 min 11 s
49	37	HC-01 copy 2	on the line	89.7	1	0 min 10 s
50	20	HF-01 copy 2	on the line	23.7	1	0 min 05 s
51	17	HF-01 copy 2	on the line	23.7	1	0 min 06 s
52	14	HF-01 copy 2	on the line	23.7	1	0 min 06 s
53	29	HF-01 copy 3	on the line	23.7	1	0 min 05 s
54	28	HF-01 copy 3	on the line	23.7	1	0 min 06 s
55	13	HF-01 copy 2	on the line	23.7	1	0 min 05 s
56	16	HF-01 copy 2	on the line	23.7	1	0 min 06 s
57	12	HF-01 copy 2	on the line	1649.7	1	1 min 47 s
58	18	HF-01 copy 2	on the line	23.7	1	0 min 06 s
59	19	HF-01 copy 2	on the line	23.7	1	0 min 06 s
60	1	HF-01 copy 1	on the line	2083.4	1	2 min 17 s
61	32	HC-01 copy 1	on the line	89.7	1	0 min 13 s
62	33	HC-01 copy 1	on the line	89.7	1	0 min 10 s
63	27	HF-01 copy 3	on the line	23.7	1	0 min 12 s
64	46	HC-01 copy 4	on the line	89.7	1	0 min 10 s
65	25	HF-01 copy 3	on the line	23.7	1	0 min 06 s
66	53	CT-01 copy 2	on the line	110.0	1	0 min 11 s
67	59	CT-01 copy 4	on the line	110.0	1	0 min 10 s
68	66	CT-01 copy 6	on the line	110.0	1	0 min 11 s
69	72	CT-01 copy 8	on the line	110.0	1	0 min 10 s
70	67	CT-01 copy 6	on the line	110.0	1	0 min 11 s
71	49	CT-01 copy 1	on the line	110.0	1	0 min 11 s
72	54	CT-01 copy 2	on the line	110.0	1	0 min 11 s

W1 CUTTING ORDER, CUTS 1 TO 28 (ON THE LINE)

No.	Shape	Part	Side	Length mm	Pierces	Time
1	3	TP-01 copy 1	on the line	23.7	1	0 min 05 s
2	2	TP-01 copy 1	on the line	23.7	1	0 min 06 s
3	6	TP-01 copy 1	on the line	153.1	1	0 min 14 s
4	7	TP-01 copy 1	on the line	153.1	1	0 min 15 s
5	4	TP-01 copy 1	on the line	23.7	1	0 min 06 s
6	5	TP-01 copy 1	on the line	23.7	1	0 min 06 s
7	8	TP-01 copy 2	open	1452.0	1	1 min 36 s
8	15	TP-01 copy 3	open	1452.0	1	1 min 36 s
9	22	TP-01 copy 4	open	1452.0	1	1 min 36 s
10	29	TP-01 copy 5	open	1452.0	1	1 min 36 s
11	36	TP-01 copy 6	open	1452.0	1	1 min 36 s
12	43	TP-01 copy 7	open	1452.0	1	1 min 36 s
13	50	TP-01 copy 8	open	1452.0	1	1 min 36 s
14	44	TP-01 copy 7	on the line	23.7	1	0 min 05 s
15	52	TP-01 copy 8	on the line	23.7	1	0 min 05 s
16	51	TP-01 copy 8	on the line	23.7	1	0 min 06 s
17	55	TP-01 copy 8	on the line	153.1	1	0 min 14 s
18	48	TP-01 copy 7	on the line	153.1	1	0 min 14 s
19	41	TP-01 copy 6	on the line	153.1	1	0 min 14 s
20	34	TP-01 copy 5	on the line	153.1	1	0 min 14 s
21	27	TP-01 copy 4	on the line	153.1	1	0 min 14 s
22	20	TP-01 copy 3	on the line	153.1	1	0 min 14 s
23	13	TP-01 copy 2	on the line	153.1	1	0 min 14 s
24	10	TP-01 copy 2	on the line	23.7	1	0 min 06 s
25	9	TP-01 copy 2	on the line	23.7	1	0 min 06 s
26	17	TP-01 copy 3	on the line	23.7	1	0 min 05 s
27	16	TP-01 copy 3	on the line	23.7	1	0 min 06 s
28	24	TP-01 copy 4	on the line	23.7	1	0 min 05 s

W1 CUTS 29 TO 56

No.	Shape	Part	Side	Length mm	Pierces	Time
29	23	TP-01 copy 4	on the line	23.7	1	0 min 06 s
30	31	TP-01 copy 5	on the line	23.7	1	0 min 05 s
31	30	TP-01 copy 5	on the line	23.7	1	0 min 06 s
32	38	TP-01 copy 6	on the line	23.7	1	0 min 05 s
33	37	TP-01 copy 6	on the line	23.7	1	0 min 06 s
34	45	TP-01 copy 7	on the line	23.7	1	0 min 05 s
35	49	TP-01 copy 7	on the line	153.1	1	0 min 16 s
36	42	TP-01 copy 6	on the line	153.1	1	0 min 14 s
37	35	TP-01 copy 5	on the line	153.1	1	0 min 14 s
38	28	TP-01 copy 4	on the line	153.1	1	0 min 14 s
39	21	TP-01 copy 3	on the line	153.1	1	0 min 14 s
40	14	TP-01 copy 2	on the line	153.1	1	0 min 14 s
41	12	TP-01 copy 2	on the line	23.7	1	0 min 06 s
42	11	TP-01 copy 2	on the line	23.7	1	0 min 06 s
43	19	TP-01 copy 3	on the line	23.7	1	0 min 05 s
44	18	TP-01 copy 3	on the line	23.7	1	0 min 06 s
45	26	TP-01 copy 4	on the line	23.7	1	0 min 05 s
46	25	TP-01 copy 4	on the line	23.7	1	0 min 06 s
47	33	TP-01 copy 5	on the line	23.7	1	0 min 05 s
48	32	TP-01 copy 5	on the line	23.7	1	0 min 06 s
49	40	TP-01 copy 6	on the line	23.7	1	0 min 05 s
50	39	TP-01 copy 6	on the line	23.7	1	0 min 06 s
51	47	TP-01 copy 7	on the line	23.7	1	0 min 05 s
52	46	TP-01 copy 7	on the line	23.7	1	0 min 06 s
53	54	TP-01 copy 8	on the line	23.7	1	0 min 05 s
54	53	TP-01 copy 8	on the line	23.7	1	0 min 06 s
55	56	TP-01 copy 8	on the line	153.1	1	0 min 14 s
56	1	TP-01 copy 1	on the line	2392.0	1	2 min 45 s

W5 CUTTING ORDER (KERF OFFSET)

No.	Shape	Part	Side	Length mm	Pierces	Time
1	8	HF-01 copy 4	inside	33.1	1	0 min 05 s
2	6	HF-01 copy 4	inside	33.1	1	0 min 06 s
3	3	HF-01 copy 4	inside	33.1	1	0 min 06 s
4	4	HF-01 copy 4	inside	33.1	1	0 min 06 s
5	2	HF-01 copy 4	inside	1659.1	1	1 min 48 s
6	5	HF-01 copy 4	inside	33.1	1	0 min 06 s
7	7	HF-01 copy 4	inside	33.1	1	0 min 06 s
8	10	HF-01 copy 4	inside	33.1	1	0 min 06 s
9	9	HF-01 copy 4	inside	33.1	1	0 min 06 s
10	1	HF-01 copy 4	outside	2074.0	1	2 min 16 s

W4 G-CODE HEAD (ISO POST)

Generated by Stratal CAD CNC Cut. Check in your controller's preview and dry-run before cutting.
Job 70669 [Harrow Lane 3020 abrasive waterjet, ISO controller [demo profile], post iso]: 85 cuts, 0 drill holes, kerf 1 mm, feed 950 mm/min
Machine: Harrow Lane 3020 abrasive waterjet, ISO controller [demo profile] [waterjet], post iso
Cut chart: waterjet-5083-5, 5083 aluminium 5 mm [example values: replace from your machine's cut chart]
Tool or kerf: 1 mm; feed 950 mm/min; plunge feed 950 mm/min
Pierce or safe height: 3 mm; pierce delay 3 s; cut height or depth: 2 mm; power 0
Depth passes: one pass
Kerf offset: none, every cut runs on its shape's line [Side On or open cuts]
Corner slowdown: 0 corners at 40% feed for 3 mm either side [turns of 30 degrees or more; 0.0 mm cut slower]
Work origin: drawing point [57400, 3700] mm is X0 Y0
Drill holes: 0
Cuts: 85; pierces 85; cut length 28487.8 mm; rapids 18278.3 mm; estimated time 36 min 04 s
%

CNCCOST BY PROGRAM (EXAMPLE RATES)

Prog.	Job	Machine	Setup	Consumables	Material	Total
W1	68956	£32.69	£31.67	£50.94	£140.00	£255.30
W4	70669	£57.10	£31.67	£82.34	£140.00	£311.11
W5	72407	£7.78	£31.67	£10.40	£140.00	£189.85

WHAT THE PLUGIN SAID

W1 cut three times: £255.30 x 3 = £765.90 for sheets 1 to 3 (each run its own setup and sheet).

CNCPATH (W1) before the origin was set: "Sheet: 2000 x 1000 mm from (0, 0) (the setup's); 56 cuts' leads were changed to stay on the sheet; 56 cuts run off the sheet." CNCEDIT Origin then Sheet Setup: "Sheet of Job 68956: 2000 x 1000 mm from (50800, 3700); every lead fits on the sheet."

CNCSIM Removal: W1 154.8 cm2 cut away (99.2 % of the sheet left), W4 275 cm2 (98.6 %), W5 39.6 cm2 (99.8 %), cells of 1.15 mm. For W4 the outlines were too many to draw: "(this app draws no overlays: the figures only)" (FINDINGS bug 2).

NOTES

1. True-Shape Nesting found sheets 1 to 3 to be one layout: one program, W1, is cut three times. Sheets 2 and 3 are drawn without toolpaths.
2. W1 and W4 cut on Nesting's common-line paths (Side On, open cuts with 4 mm leads); W5, one hatch frame, on its outline with the kerf offset.
3. Corner slowdown (40 %, 3 mm) is set by my chart, but the treads, frames and brackets have rounded corners larger than the kerf, so the G-code heads count 0 corners.
4. Part counts on common-line jobs are as CNCCOST counted them; FINDINGS bug 1 explains why they are higher than the copies on the sheet.

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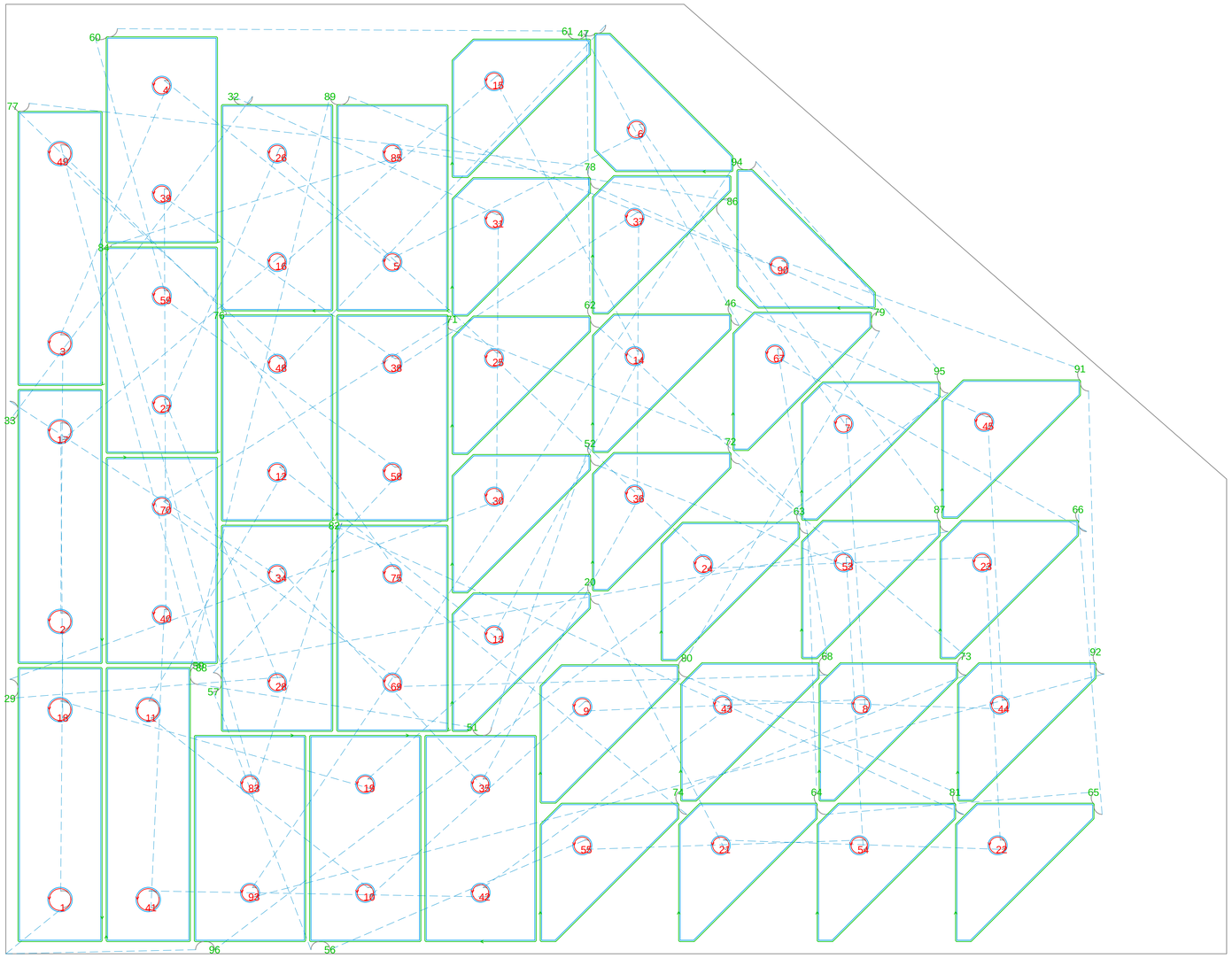
TITLE
HLF-2614 5083 ALUMINIUM 5 MM SHEETS 1-5
ABRASIVE WATERJET ON COMMON LINES

PROJECT	DRAWN		
HLF-2614 / HL9 kitchen (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-CNC-003	3 of 5	1:15	A1
SOFTWARE	DATE		
Stratal CAD 0.1.8, CNC Cut & G-code 0.9.0	12 Nov 2026		

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

F1 JOB 74267: HLF-2614A S275 10 MM ON RACK OFFCUT O4, HD PLASMA (PLASMA-THC)



THE JOB

Job 74267	
Cuts	96
Pierces	96
Cut	19.67 m
Rapids	24.21 m
Time	17 min 56 s
Offcut left	93.2 % (Removal)
Part names	96 of 96, Nesting
Cost	£144.08

PART COSTS BY KIND

Part	Qty	Each	Total
GU-03	24	£2.76	£66.25
SP-01	4	£4.97	£19.87
CL-01	11	£4.83	£53.11
CL-01 first-off check	1	£4.84	£4.84
Job	40		£144.08

WHAT THE PLUGIN SAID

CNCPATH: "Sheet: an outline of 5 points, 900 x 700 mm across; 1 cut's lead was changed to stay on the sheet." "Part names: 96 from True-Shape Nesting (of 96 cuts)."
CNCEDIT Name: "Shape 13 is part CL-01 first-off check: shape 13 CL-01 first-off check #16388 (cut 88 of 96)." CNCCOST lists it as its own kind.
CNCEDIT Settings: "CornerSlow set to 0 on Job 74267: 96 cuts, about 17 min 56 s."
CNCSIM Removal: 378.8 cm2 cut away; 5221.2 of 5600 cm2 of the offcut left (93.2 %), 0.65 mm cells.

G-CODE: THE RENAMED CLEAT

(Cut 88: shape 13 CL-01 first-off check #16388, outside)
G00 X144.214 Y211
G00 Z4.5
M3
G4 P0.8
G01 Z1.8 F1400
G03 X141.214 Y214 I-3 J0 F1400
G01 X75 Y214 F1400
G02 X74 Y215 I0 J1 F1400
G01 X74 Y365 F1400
G02 X74.293 Y365.707 I1 J0 F1400
G02 X75 Y366 I0.707 J-0.707 F1400
G01 X155 Y366 F1400
G02 X156 Y365 I0 J-1 F1400
G01 X156 Y215 F1400
G02 X155 Y214 I-1 J0 F1400

G-CODE HEAD

Generated by Stratal CAD CNC Cut. Check in your controller's preview a
Job 74267 [Harrow Lane 3015 HD plasma, torch height control [demo prof
Machine: Harrow Lane 3015 HD plasma, torch height control [demo profil
Cut chart: plasma-s275-10-85a, S275 mild steel 10 mm [example values:
Tool or kerf: 2 mm; feed 1400 mm/min; plunge feed 1400 mm/min
Pierce or safe height: 4.5 mm; pierce delay 0.8 s; cut height or depth
Depth passes: one pass
Kerf offset: by the plugin
Work origin: drawing point [70200, -2450] mm is X0 Y0

Sheet 1 of 1 (stock outline in 900 x 700): 40 parts, 57.6 %

CNCCOST: ALL FOURTEEN PROGRAMS (EXAMPLE RATES; W1 COUNTED THREE TIMES)

Job	Sheet	Process, post	Parts	Time	Machine	Setup	Consum.	Material	Total
25760	S275 sheet 1	plasma, plasma-thc	60	64 min 53 s	£91.91	£28.33	£98.82	£369.00	£588.07
57457	S275 sheet 2	plasma, mach3	139	67 min 51 s	£96.11	£28.33	£155.05	£369.00	£648.50
63872	304 offcut	fibre laser, laser	20	6 min 30 s	£12.99	£40.00	£5.30	£162.84	£221.13
66052	304 sheet 2	fibre laser, laser	19	11 min 10 s	£22.33	£40.00	£8.99	£300.00	£371.32
67907	304 sheet 3	fibre laser, laser	5	7 min 27 s	£14.90	£40.00	£5.31	£300.00	£360.20
68956	5083 sheets 1-3 (x3)	waterjet, iso	43	20 min 39 s	£32.69	£31.67	£50.94	£140.00	£255.30
70669	5083 sheet 4	waterjet, iso	46	36 min 04 s	£57.10	£31.67	£82.34	£140.00	£311.11
72407	5083 sheet 5	waterjet, iso	1	4 min 55 s	£7.78	£31.67	£10.40	£140.00	£189.85
74267	S275 offcut O4	plasma, plasma-thc	40	17 min 56 s	£25.41	£28.33	£44.42	£45.92	£144.08
11623	White MFC board 1	router, router-atc	14	12 min 34 s	£13.61	£16.25	£11.50	£78.25	£119.60
13025	White MFC board 9	router, router-atc	27	25 min 12 s	£27.30	£16.25	£18.97	£78.25	£140.77
14649	Sage MDF board 1	router, router-atc	10	9 min 11 s	£9.95	£16.25	£8.33	£220.25	£254.78
15378	MFC back board 2	router, router-atc	10	4 min 35 s	£4.97	£16.25	£4.18	£43.47	£68.87
15966	Oak MDF board 1	router, router-atc	5	4 min 06 s	£4.44	£16.25	£3.81	£185.47	£209.97
All	16 sheets cut								£4394.15

F1 CUTTING ORDER, CUTS 1 TO 48

No.	Shape	Part	Side	Length mm	Pierces	Time
1	3	SP-01 copy 1	inside	71.1	1	0 min 06 s
2	6	SP-01 copy 2	inside	71.1	1	0 min 06 s
3	9	SP-01 copy 3	inside	71.1	1	0 min 06 s
4	20	CL-01 copy 3	inside	49.1	1	0 min 05 s
5	45	CL-01 copy 11	inside	49.1	1	0 min 05 s
6	94	GU-03 copy 23	inside	49.1	1	0 min 05 s
7	80	GU-03 copy 16	inside	49.1	1	0 min 05 s
8	84	GU-03 copy 18	inside	49.1	1	0 min 05 s
9	62	GU-03 copy 7	inside	49.1	1	0 min 05 s
10	36	CL-01 copy 8	inside	49.1	1	0 min 05 s
11	11	SP-01 copy 4	inside	71.1	1	0 min 06 s
12	30	CL-01 copy 6	inside	49.1	1	0 min 05 s
13	50	GU-03 copy 1	inside	49.1	1	0 min 05 s
14	66	GU-03 copy 9	inside	49.1	1	0 min 05 s
15	58	GU-03 copy 5	inside	49.1	1	0 min 05 s
16	33	CL-01 copy 7	inside	49.1	1	0 min 05 s
17	5	SP-01 copy 2	inside	71.1	1	0 min 06 s
18	2	SP-01 copy 1	inside	71.1	1	0 min 06 s
19	35	CL-01 copy 8	inside	49.1	1	0 min 05 s
20	49	GU-03 copy 1	outside	365.6	1	0 min 17 s
21	72	GU-03 copy 12	inside	49.1	1	0 min 05 s
22	90	GU-03 copy 21	inside	49.1	1	0 min 05 s
23	86	GU-03 copy 19	inside	49.1	1	0 min 05 s
24	70	GU-03 copy 11	inside	49.1	1	0 min 05 s
25	54	GU-03 copy 3	inside	49.1	1	0 min 05 s
26	32	CL-01 copy 7	inside	49.1	1	0 min 05 s
27	18	CL-01 copy 2	inside	49.1	1	0 min 05 s
28	27	CL-01 copy 5	inside	49.1	1	0 min 05 s
29	1	SP-01 copy 1	outside	547.1	1	0 min 25 s
30	52	GU-03 copy 2	inside	49.1	1	0 min 06 s
31	56	GU-03 copy 4	inside	49.1	1	0 min 05 s
32	31	CL-01 copy 7	outside	487.1	1	0 min 22 s
33	4	SP-01 copy 2	outside	547.1	1	0 min 25 s
34	26	CL-01 copy 5	inside	49.1	1	0 min 05 s
35	47	CL-01 copy 12	inside	49.1	1	0 min 05 s
36	64	GU-03 copy 8	inside	49.1	1	0 min 05 s
37	68	GU-03 copy 10	inside	49.1	1	0 min 05 s
38	41	CL-01 copy 10	inside	49.1	1	0 min 05 s
39	21	CL-01 copy 3	inside	49.1	1	0 min 05 s
40	15	CL-01 copy 1	inside	49.1	1	0 min 05 s
41	12	SP-01 copy 4	inside	71.1	1	0 min 06 s
42	48	CL-01 copy 12	inside	49.1	1	0 min 05 s
43	74	GU-03 copy 13	inside	49.1	1	0 min 05 s
44	92	GU-03 copy 22	inside	49.1	1	0 min 05 s
45	88	GU-03 copy 20	inside	49.1	1	0 min 05 s
46	65	GU-03 copy 9	outside	365.6	1	0 min 17 s
47	93	GU-03 copy 23	outside	365.6	1	0 min 17 s
48	29	CL-01 copy 6	inside	49.1	1	0 min 05 s

CUTS 49 TO 96

No.	Shape	Part	Side	Length mm	Pierces	Time
49	8	SP-01 copy 3	inside	71.1	1	0 min 06 s
50	10	SP-01 copy 4	outside	547.1	1	0 min 25 s
51	46	CL-01 copy 12	outside	487.1	1	0 min 22 s
52	51	GU-03 copy 2	outside	365.6	1	0 min 17 s
53	78	GU-03 copy 15	inside	49.1	1	0 min 05 s
54	82	GU-03 copy 17	inside	49.1	1	0 min 05 s
55	60	GU-03 copy 6	inside	49.1	1	0 min 05 s
56	34	CL-01 copy 8	outside	487.1	1	0 min 22 s
57	25	CL-01 copy 5	outside	487.1	1	0 min 22 s
58	42	CL-01 copy 10	inside	49.1	1	0 min 05 s
59	17	CL-01 copy 2	inside	49.1	1	0 min 05 s
60	19	CL-01 copy 3	outside	487.1	1	0 min 22 s
61	57	GU-03 copy 5	outside	365.6	1	0 min 18 s
62	53	GU-03 copy 3	outside	365.6	1	0 min 17 s
63	69	GU-03 copy 11	outside	365.6	1	0 min 17 s
64	71	GU-03 copy 12	outside	365.6	1	0 min 17 s
65	89	GU-03 copy 21	outside	365.6	1	0 min 17 s
66	85	GU-03 copy 19	outside	365.6	1	0 min 17 s
67	76	GU-03 copy 14	inside	49.1	1	0 min 05 s
68	73	GU-03 copy 13	outside	365.6	1	0 min 17 s
69	39	CL-01 copy 9	inside	49.1	1	0 min 05 s
70	14	CL-01 copy 1	inside	49.1	1	0 min 05 s
71	40	CL-01 copy 10	outside	477.7	1	0 min 22 s
72	63	GU-03 copy 8	outside	365.6	1	0 min 17 s
73	83	GU-03 copy 18	outside	365.6	1	0 min 17 s
74	59	GU-03 copy 6	outside	365.6	1	0 min 17 s
75	38	CL-01 copy 9	inside	49.1	1	0 min 05 s
76	28	CL-01 copy 6	outside	473.0	1	0 min 22 s
77	7	SP-01 copy 3	outside	543.7	1	0 min 25 s
78	55	GU-03 copy 4	outside	365.6	1	0 min 18 s
79	75	GU-03 copy 14	outside	365.6	1	0 min 17 s
80	61	GU-03 copy 7	outside	365.6	1	0 min 17 s
81	81	GU-03 copy 17	outside	365.6	1	0 min 17 s
82	37	CL-01 copy 9	outside	473.0	1	0 min 23 s
83	23	CL-01 copy 4	inside	49.1	1	0 min 05 s
84	16	CL-01 copy 2	outside	473.0	1	0 min 22 s
85	44	CL-01 copy 11	inside	49.1	1	0 min 05 s
86	67	GU-03 copy 10	outside	365.6	1	0 min 17 s
87	77	GU-03 copy 15	outside	365.6	1	0 min 17 s
88	13	CL-01 first-off check	outside	477.7	1	0 min 23 s
89	43	CL-01 copy 11	outside	487.1	1	0 min 23 s
90	96	GU-03 copy 24	inside	49.1	1	0 min 05 s
91	87	GU-03 copy 20	outside	365.6	1	0 min 17 s
92	91	GU-03 copy 22	outside	365.6	1	0 min 17 s
93	24	CL-01 copy 4	inside	49.1	1	0 min 06 s
94	95	GU-03 copy 24	outside	365.6	1	0 min 18 s
95	79	GU-03 copy 16	outside	365.6	1	0 min 17 s
96	22	CL-01 copy 4	outside	487.1	1	0 min 24 s

NOTES

1. The rack offcut O4 is the job's sheet (CNCPATH Sheet Outline): leads stay on the offcut's own outline.
2. One cleat is renamed with CNCEDIT Name; every other part name comes from True-Shape Nesting.
3. The corner slowdown carried over from the waterjet setup was turned off with CNCEDIT Settings (FINDINGS bug 3).
4. Costs: CNCCOST at my example rates (machine profiles and cut charts in my library, setup minutes typed): estimates for quoting, not prices.

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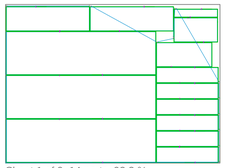
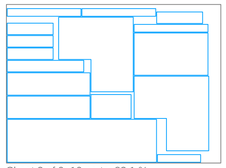
TITLE
HLF-2614A FOLLOW-ON ON OFFCUT O4
HD PLASMA; COSTS OF ALL 14 JOBS

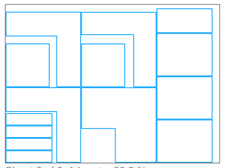
PROJECT	DRAWN		
HLF-2614 / HL9 kitchen (fictional)	Stratal CAD demo		
DRAWING NO.	SHEET	SCALE	SIZE
STR-CNC-004	4 of 5	1:2	A1
SOFTWARE		DATE	
Stratal CAD 0.1.8, CNC Cut & G-code 0.9.0		12 Nov 2026	

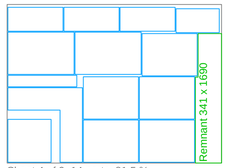
STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE

Nest 9598 (White melamine MFC 18 mm): 9 sheet(s), 165 parts placed


Sheet 1 of 9: 14 parts, 92.3 %


Sheet 2 of 9: 16 parts, 83.1 %

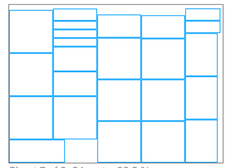

Sheet 3 of 9: 14 parts, 80.5 %



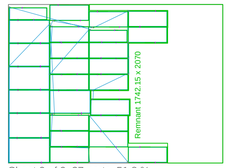
Sheet 4 of 9: 14 parts, 81.5 %


Sheet 5 of 9: 16 parts, 92.6 %


Sheet 6 of 9: 19 parts, 92.3 %


Sheet 7 of 9: 24 parts, 86.2 %

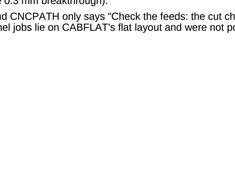

Sheet 8 of 9: 21 parts, 79.3 %



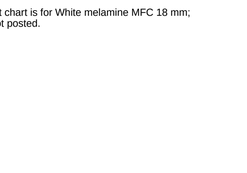
Sheet 9 of 9: 27 parts, 51.8 %

Nest 9514 (Sage painted MDF 18 mm): 3 sheet(s), 25 parts placed


Sheet 1 of 3: 10 parts, 85.2 %



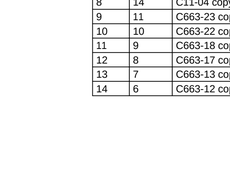
Sheet 2 of 3: 9 parts, 64 %



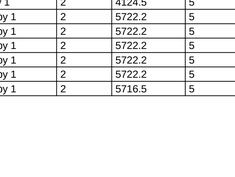
Sheet 3 of 3: 6 parts, 36.1 %

Nest 9552 (White MFC back 8 mm): 4 sheet(s), 29 parts placed

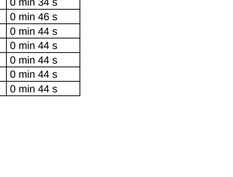
Sheet 1 of 4: 6 parts, 78.6 %



Sheet 2 of 4: 10 parts, 83.9 %

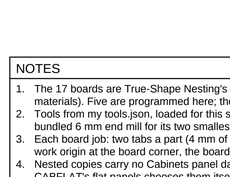


Sheet 3 of 4: 10 parts, 69.9 %



Sheet 4 of 4: 3 parts, 17.4 %

Nest 9502 (Oak veneered MDF 18 mm): 1 sheet(s), 5 parts placed



Sheet 1 of 1: 5 parts, 21.9 %

PROGRAMMED BOARDS: WHITE MFC 1 (TOP LEFT) AND 9 (TOP RIGHT); SAGE MDF 1, MFC BACK 2 AND OAK MDF 1 (BOTTOM ROW, LEFT, MIDDLE, RIGHT)

FIVE BOARD JOBS, POST ROUTER-ATC (CNCSIM, CNCREPORT, CNCSIM REMOVAL, CNCCOST AT EXAMPLE RATES)

Board	Job	Cut chart	Tools	Cuts	Entries	Cut m	Time	Removed	Cost
White MFC 18 board 1	11623	router-white-mfc-18	hj-comp-6	14	70	99.96	12 min 34 s	4045.9 cm3	£119.60
White MFC 18 board 9	13025	router-white-mfc-18	T5, T3, T2	27	155	140.30	25 min 12 s	4462.6 cm3	£140.77
Sage MDF 18 board 1	14649	router-sage-mdf-18	hj-comp-6	10	50	72.88	9 min 11 s	3009.2 cm3	£254.78
MFC back 8 board 2	15378	router-white-back-8	hj-comp-6	10	30	33.46	4 min 36 s	1291 cm3	£68.87
Oak MDF 18 board 1	15966	router-oak-mdf-18	hj-comp-6	5	25	31.99	4 min 06 s	1231.8 cm3	£209.97

BOARD 9: TOOL LINES IN THE SETUP SHEET

Tool (board 9)	Cuts	Cut mm	Time	Step-down	Passes
T5 hj-comp-10, 10 mm	7	34768.0	3 min 37 s	10 mm	2
T3 hj-comp-6, 6 mm	18	79555.5	10 min 36 s	9.5 mm	2
T2 em-6-2f, 6 mm	2	25974.1	10 min 59 s	3 mm	7

Planning starts with the largest cutter and changes tool twice (T5, T3, T2):
"T5 M6", "T3 M6", "T2 M6" in the G-code. The end mill's own 3 mm step-down
gives its two parts 7 passes (setup sheet: "7" in the passes column).

SAGE BOARD 1: RAMP ON THE LEAD

(Cut 2: shape 2 C172-11 copy 1 #10529, outside, 2...
G0 X7.8787 Y606.8076
M3 S18000
G4 P1
G1 Z0 F1500
G1 X7.8787 Y613.6945 Z-0.4816 F1500
G1 X7.8787 Y606.8076 Z-0.9632 F1500
G1 X7.8787 Y613.6945 Z-1.4447 F1500
G1 X7.8787 Y606.8076 Z-1.9263 F1500
G1 X7.8787 Y613.6945 Z-2.4079 F1500
G1 X7.8787 Y606.8076 Z-2.8895 F1500
G1 X7.8787 Y613.6945 Z-3.3711 F1500
G1 X7.8787 Y606.8076 Z-3.8526 F1500
G1 X7.8787 Y613.6945 Z-4.3342 F1500
G1 X7.8787 Y606.8076 Z-4.8158 F1500
G1 X7.8787 Y613.6945 Z-5.2974 F1500
G1 X7.8787 Y606.8076 Z-5.7789 F1500
G1 X7.8787 Y613.6945 Z-6.2605 F1500
G1 X7.8787 Y606.8076 Z-6.7421 F1500
G1 X7.8787 Y613.6945 Z-7.2237 F1500
G1 X7.8787 Y606.8076 Z-7.7053 F1500
G1 X7.8787 Y613.6945 Z-8.1868 F1500
G1 X7.8787 Y606.8076 Z-8.6684 F1500
G1 X7.8787 Y613.6945 Z-9.15 F1500

BOARD 9: FIRST TOOL

(Cut 1: shape 1 C489-03 copy 1 #10490, outside, 2...
M5
G53 G0 Z0
T5 M6
G43 H5
G0 Z5
G0 X6.4645 Y6.4645
M3 S18000
G4 P1
G1 Z-9.15 F2000
G2 X5 Y10 I3.5355 J3.5355 F12000

BOARD 9 CUTTING ORDER (ALL 27 CUTS)

No.	Shape	Part	Passes	Length mm	Entries	Time
1	1	C489-03 copy 1	2	4921.0	5	0 min 30 s
2	2	C489-04 copy 1	2	4921.0	5	0 min 30 s
3	3	C420-07 copy 1	2	4833.0	5	0 min 30 s
4	4	C475-06 copy 1	2	4833.0	5	0 min 30 s
5	5	C475-07 copy 1	2	4833.0	5	0 min 30 s
6	6	C489-06 copy 1	2	5257.0	5	0 min 33 s
7	7	C489-07 copy 1	2	5169.8	5	0 min 34 s
8	15	C11-12 copy 1	2	4165.2	5	0 min 33 s
9	14	C11-11 copy 1	2	4505.4	5	0 min 36 s
10	17	C11-17 copy 1	2	4514.2	5	0 min 36 s
11	13	C11-24 copy 1	2	4516.5	5	0 min 36 s
12	24	C663-20 copy 1	2	4770.2	5	0 min 38 s
13	18	C11-21 copy 1	2	4252.5	5	0 min 35 s
14	22	C663-15 copy 1	2	4165.2	5	0 min 33 s
15	19	C11-22 copy 1	2	4645.0	5	0 min 36 s
16	20	C663-10 copy 1	2	3990.8	5	0 min 33 s
17	21	C663-11 copy 1	2	3990.8	5	0 min 32 s
18	23	C663-16 copy 1	2	4514.2	5	0 min 36 s
19	25	C663-21 copy 1	2	4252.5	5	0 min 34 s
20	16	C11-16 copy 1	2	4645.0	5	0 min 37 s
21	8	C11-13 copy 1	2	4653.0	5	0 min 37 s
22	12	C11-23 copy 1	2	4173.2	5	0 min 33 s
23	11	C11-19 copy 1	2	4513.4	5	0 min 36 s
24	9	C11-14 copy 1	2	4775.1	5	0 min 37 s
25	10	C11-18 copy 1	2	4513.4	5	0 min 35 s
26	27	C232-09 copy 1	7	12323.2	15	5 min 13 s
27	26	C232-08 copy 1	7	13650.9	15	5 min 46 s

WHITE MFC BOARD 1 CUTTING ORDER

No.	Shape	Part	Passes	Length mm	Entries	Time
1	1	C156-01 copy 1	2	11753.6	5	1 min 24 s
2	2	C156-02 copy 1	2	11758.5	5	1 min 25 s
3	3	C172-01 copy 1	2	11758.5	5	1 min 25 s
4	4	C447-03 copy 1	2	7570.2	5	0 min 58 s
5	5	C447-04 copy 1	2	7575.9	5	0 min 58 s
6	12	C340-01 copy 1	2	5596.5	5	0 min 45 s
7	13	C378-03 copy 1	2	5495.9	5	0 min 42 s
8	14	C11-04 copy 1	2	4124.5	5	0 min 34 s
9	11	C663-23 copy 1	2	5722.2	5	0 min 46 s
10	10	C663-22 copy 1	2	5722.2	5	0 min 44 s
11	9	C663-18 copy 1	2	5722.2	5	0 min 44 s
12	8	C663-17 copy 1	2	5722.2	5	0 min 44 s
13	7	C663-13 copy 1	2	5722.2	5	0 min 44 s
14	6	C663-12 copy 1	2	5716.5	5	0 min 44 s

CNCPATH BYJOB ON CABFLAT'S 59 FLAT PANELS: ONE JOB PER CABINETS JOB

Job	Cabinets job (panel)	Chart chosen	Depth	Cuts	Entries	Time
17781	Oak veneered MDF 18 mm	router-oak-mdf-18	18.3	5	25	4 min 51 s
18402	Sage painted MDF 18 mm	router-sage-mdf-18	18.3	25	125	28 min 20 s
19100	White MFC back 8 mm	router-white-back-8	8.3	29	87	12 min 28 s

WHAT THE PLUGIN SAID

CNCPATH on all 59 panels: "The selected shapes come from 3 Cabinets jobs of different material or thickness:
CAB-FLAT-Oak_veneered_MDF-18 (5 shapes), CAB-FLAT-Sage_painted_MDF-18 (25 shapes), CAB-FLAT-White_MFC_back-8 (29 shapes)." Go alone is refused: "No job was made ... Choose ByJob ... or Job".

ByJob: "3 jobs made, one per Cabinets job, in one undo step." With no CNCTOOL tool set: "Cut chart router-sage-mdf-18 cuts Sage painted MDF 18 mm (Cabinets job CAB-FLAT-Sage_painted_MDF-18) (the setup's router-white-mfc-18 is for White melamine MFC 18 mm)"; the 8 mm backs get 8.3 mm depth (thickness plus the 0.3 mm breakthrough).

With a CNCTOOL tool set the tool's values win and CNCPATH only says "Check the feeds; the cut chart is for White melamine MFC 18 mm; this job is Oak veneered MDF 18 mm". These panel jobs lie on CABFLAT's flat layout and were not posted.

MATERIAL REMOVED (CNCSIM REMOVAL)

CNCSIM Removal on a router gives a height map: board 1 "2251.5 cm² cut away (2243.8 cm² through the 18 mm stock), 4045.9 cm³ removed; 5.572 m² of the 5.796 m² sheet left (96.1%)"

MFC back board 2: "1613.7 cm² cut away (1613.7 cm² through the 8 mm stock), 1291 cm³ removed; 5.635 m² of the 5.796 m² sheet left (97.2%); depth contours at 8 mm"

SAGE BOARD 1: G-CODE HEAD (ROUTER-ATC POST)

Generated by Stratal CAD CNC Cut. Check in your controller's preview and dry-run before cutting.
Job 14649 [Hawthorn Joinery 3121 nesting router with tool changer, LinuxCNC [demo profile], post router-atc]: 10 cuts, 0 drill holes, kerf 6 mm, feed 90...
Machine: Hawthorn Joinery 3121 nesting router with tool changer, LinuxCNC [demo profile] [router], post router-atc
Cut chart: router-sage-mdf-18, Sage painted MDF 18 mm [example values: replace from your machine's cut chart]
Tool or kerf: 6 mm; feed 9000 mm/min; plunge feed 1500 mm/min
Pierce or safe height: 5 mm; pierce delay 1 s; cut height or depth: 18.3 mm; power 18000
Depth passes: 2 [9.15, 18.3 mm; step-down 9.5 mm]
Kerf offset: by the plugin
Work origin: drawing point [235160, 15000] mm is X0 Y0
Drill holes: 0
Cuts: 10; pierces 50; cut length 72884.8 mm; rapids 6399.1 mm; estimated time 9 min 11 s
G21 G90 G17 G40 G49 G64 P0.05
G0 Z5

SAGE MDF BOARD 1 CUTTING ORDER

No.	Shape	Part	Passes	Length mm	Entries	Time
1	1	C156-11 copy 1	2	11865.6	5	1 min 24 s
2	2	C172-11 copy 1	2	11870.5	5	1 min 26 s
3	3	C340-09 copy 1	2	7335.3	5	0 min 57 s
4	4	C340-10 copy 1	2	6724.2	5	0 min 52 s
5	5	C67-09 copy 1	2	7223.9	5	0 min 55 s
6	8	C11-08 copy 1	2	5050.2	5	0 min 40 s
7	10	C11-10 copy 1	2	4788.5	5	0 min 37 s
8	9	C11-09 copy 1	2	4701.2	5	0 min 38 s
9	7	C270-08 copy 1	2	6369.0	5	0 min 49 s
10	6	C91-09 copy 1	2	6956.5	5	0 min 53 s

NOTES

1. The 17 boards are True-Shape Nesting's NESTRUN Split of the Cabinets & Joinery kitchen (four materials). Five are programmed here; the others are left as nested.
2. Tools from my tools.json, loaded for this session only with CNCTOOL LoadOnce; board 9 also uses the bundled 6 mm end mill for its two smallest parts.
3. Each board job: two tabs a part (4 mm of material), ramped entries at 4 degrees, helical entries on, work origin at the board corner, the board as the sheet.
4. Nested copies carry no Cabinets panel data, so these jobs' charts were chosen in CNCSETUP; ByJob on CABFLAT's flat panels chooses them itself (table below).

Stratal CAD
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TITLE
HL9 KITCHEN BOARDS ON THE NESTING ROUTER
TOOLS, DEPTH PASSES, RAMPED ENTRIES

PROJECT	DRAWN
HLF-2614 / HL9 kitchen (fictional)	Stratal CAD demo

DRAWING NO.	SHEET	SCALE	SIZE
STR-CNC-005	5 of 5	1:40	A1

SOFTWARE	DATE
Stratal CAD 0.1.8, CNC Cut & G-code 0.9.0	12 Nov 2026

STATUS
DEMONSTRATION DRAWING - NOT FOR MANUFACTURE