

# CleanTop® Breadboards 2 and 4 in. Thick (50, 100 mm)

## 78 Series — 3/16 in. Skins (5 mm)

## 77 Series — 1/8 in. Skins (3 mm)



TMC's 78 and 77 Series CleanTop® Breadboards provide the ultimate in rigidity and damping for smaller tops. Available in both 2 and 4 in. thicknesses (50, 100 mm), these tops include the same proprietary CleanTop spill-proof hole technology and small cell, high-density steel honeycomb core as our largest tops. These tops can be readily designed to meet custom requirements including custom mounting hole patterns, through-holes, special shapes and custom materials. TMC's 78 and 77 Series CleanTop Breadboards are recommended for virtually all demanding breadboard applications.

**Model Number Example**

**78 or 77 — 219 — 02R**

Prefix	Size	Suffix
CleanTop 1/8 in. or 3/16 in. skins	24 in. x 48 in. x 4 in.	1/4 in. - 20 holes on 1 centers Radius corners

### General Specifications

- Core:** Steel honeycomb, closed-cell, 0.010 in. (0.2 mm) thick foil
- Core shear modulus:** 275,000 psi (19,300 kg/cm<sup>2</sup>)
- Core cell size:** <0.5 in.<sup>2</sup> (3 cm<sup>2</sup>)
- Core density:** 13.3 lb/ft<sup>3</sup> (230 kg/m<sup>3</sup>)
- Flatness:** ± 0.005 in. (0.13 mm)
- Top skin:** 430 series ferromagnetic stainless steel, 1/8 in. or 3/16 in. thick
- Sidewalls:** Damped, formed steel channel, vinyl covered
- Tapped holes:** Backed by 1 in. (25 mm) long CleanTop nylon cups

### 1. Prefix Chart

Skin Thickness	Prefix
1/8 in. (3 mm)	77
3/16 in. (5 mm)	78

### 2. Size Chart

Surface Dimensions			78 Series		77 Series	
			2 in. (50 mm)	4 in. (100 mm)	2 in. (50 mm)	4 in. (100 mm)
12 x 12	1 x 1	0.3 x 0.3	- 105 -	- 205 -	- 105 -	- 205 -
12 x 24	1 x 2	0.3 x 0.6	- 107 -	- 207 -	- 107 -	- 207 -
12 x 36	1 x 3	0.3 x 0.9	- 108 -	- 208 -	- 108 -	- 208 -
12 x 48	1 x 4	0.3 x 1.2	- 109 -	- 209 -	- 109 -	- 209 -
12 x 72	1 x 6	0.3 x 1.8	- 110 -	- 210 -	- 110 -	- 210 -
20 x 30		0.5 x 0.75	- 111 -	- 211 -	- 111 -	- 211 -
20 x 40		0.5 x 1.0	- 112 -	- 212 -	- 112 -	- 212 -
24 x 24	2 x 2	0.6 x 0.6	- 113 -	- 213 -	- 113 -	- 213 -
24 x 36	2 x 3	0.6 x 0.9	- 115 -	- 215 -	- 115 -	- 215 -
24 x 48	2 x 4	0.6 x 1.2	- 119 -	- 219 -	- 119 -	- 219 -
24 x 60	2 x 5	0.6 x 1.5	- 121 -	- 221 -	- 121 -	- 221 -
24 x 72	2 x 6	0.6 x 1.8	- 123 -	- 223 -	- 123 -	- 223 -
24 x 96	2 x 8	0.6 x 2.4	- 124 -	- 224 -	- 124 -	- 224 -
30 x 30		0.75 x 0.75	- 125 -	- 225 -	- 125 -	- 225 -
30 x 36		0.75 x 0.9	- 127 -	- 227 -	- 127 -	- 227 -
30 x 40		0.75 x 1.0	- 129 -	- 229 -	- 129 -	- 229 -
30 x 48		0.75 x 1.2	- 131 -	- 231 -	- 131 -	- 231 -
30 x 60		0.75 x 1.5	- 132 -	- 232 -	- 132 -	- 232 -
30 x 72		0.75 x 1.8	- 191 -	- 291 -	- 191 -	- 291 -
30 x 96		0.75 x 2.4	- 192 -	- 292 -	- 192 -	- 292 -
36 x 36	3 x 3	0.9 x 0.9	- 133 -	- 233 -	- 133 -	- 233 -
36 x 48	3 x 4	0.9 x 1.2	- 135 -	- 235 -	- 135 -	- 235 -
36 x 60	3 x 5	0.9 x 1.5	- 136 -	- 236 -	- 136 -	- 236 -
36 x 72	3 x 6	0.9 x 1.8	- 139 -	- 239 -	- 139 -	- 239 -
36 x 96	3 x 8	0.9 x 2.4	- 140 -	- 240 -	- 140 -	- 240 -
40 x 40		1.0 x 1.0	- 141 -	- 241 -	- 141 -	- 241 -
40 x 60		1.0 x 1.5	- 143 -	- 243 -	- 143 -	- 243 -
40 x 80		1.0 x 2.0	- 144 -	- 244 -	- 144 -	- 244 -
48 x 48	4 x 4	1.2 x 1.2	- 147 -	- 247 -	- 147 -	- 247 -
48 x 60	4 x 5	1.2 x 1.5	- 149 -	- 249 -	- 149 -	- 249 -
48 x 72	4 x 6	1.2 x 1.8	- 151 -	- 251 -	- 151 -	- 251 -
48 x 96	4 x 8	1.2 x 2.4	- 155 -	- 255 -	- 155 -	- 255 -
Weight Factor (WF)		lb/in. <sup>2</sup>	0.135	0.195	.100	0.150
Area x WF = Total Weight		kg/cm <sup>2</sup>	0.01	0.014	0.007	0.011

### 3. Suffix Chart

Suffix	Hole Pattern - Threads	Double Density*	Laser Port**
00R	No Holes	no	no
01R	1 in. centers - 1/4-20	no	yes
02R	1 in. centers - 1/4-20	no	no
11R	25 mm centers - M6	no	yes
12R	25 mm centers - M6	no	no
01DR	1 in. staggered centers - 1/4-20	yes	yes
02DR	1 in. staggered centers - 1/4-20	yes	no
11DR	25 mm staggered centers - M6	yes	yes
12DR	25 mm staggered centers - M6	yes	no

\* see page 44    \*\* see page 47