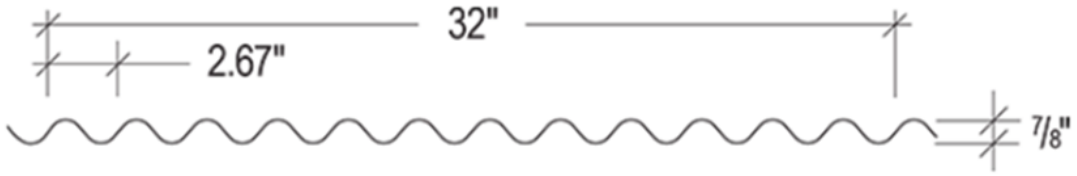
Allsouth Pre-Engineered Components
985 Technology Drive
Dothan, Alabama 36303
Phone (334) 699-8394
Fax (334) 699-8395

# PBC PANEL




| Section Properties: | AllSouth Pre-Engineered Components, LLC (APEC) 32" wide PCB Panel | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gauge | Thickness in. | Weight psf | Yield Stress ksi | Allowable Shear $V_a$ kips/ft | Moment of Inertia $I_x$ in$^4$/ft | Top in Compression (Positive Bending) | | | Bottom in Compression (Negative Bending) | | |
| | | | | | | $I_{xx}$ in$^4$/ft | $S_{xx}$ in$^3$/ft | $M_a$ in.kips/ft | $I_{xx}$ in$^4$/ft | $S_{xx}$ in$^3$/ft | $M_a$ in.kips/ft |
| 29 | 0.0145 | 0.066 | 80 | 1.33 | 0.0221 | 0.0221 | 0.0498 | 1.493 | 0.0221 | 0.0498 | 1.493 |
| 26 | 0.0180 | 0.082 | 80 | 1.64 | 0.0275 | 0.0274 | 0.0616 | 1.849 | 0.0274 | 0.0616 | 1.849 |
| 24 | 0.0230 | 0.105 | 50 | 1.73 | 0.0358 | 0.0356 | 0.0791 | 1.980 | 0.0356 | 0.0791 | 1.980 |
| 22 | 0.0285 | 0.131 | 50 | 2.11 | 0.0451 | 0.0450 | 0.0986 | 2.464 | 0.0450 | 0.0986 | 2.464 |

**Notes on Section Properties:**

1. Section properties and allowables are calculated in accordance with North American Specification for the Design of Cold-Formed Steel Structural Members, 2016 Edition (Reaffirmed 2020), with Supplement 2, 2020 Edition.
2. $I_x$ is full moment of inertia, $I_{xe}$ +/- & $S_{xe}$ +/- are effective moment of inertia and section modulus, $M_a$ is allowable bending moment and $V_a$ is allowable shear. All values are for one foot of panel width.
3. For design purposes, effective yield stress for Grade 80 steel was reduced to 60 ksi as per 2016 NAS AISI A3.1.2.
4. Minimum deliverable bare steel thickness should not be less than 0.95 of design thickness.

| AllSouth Pre-Engineered Components, LLC (APEC) 32" wide PCB Panel | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ga.** | **Span Condition** | | **Allowable Live or Inward Loads (lb/ft$^2$)** | | | | | | | | | | |
| | | | **Span (ft)** | | | | | | | | | | |
| | | | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 7 | 8 |
| 29 | SS | Stress | 248.9 | 159.3 | 110.6 | 81.3 | 62.2 | 49.2 | 39.8 | 32.9 | 27.7 | 20.3 | 15.6 |
| | | L/180 | 241.9 | 123.9 | 71.7 | 45.1 | 30.2 | 21.2 | 15.5 | 11.6 | 9.0 | 5.6 | 3.8 |
| | DS | Stress | 242.4 | 156.6 | 109.3 | 80.6 | 61.8 | 48.9 | 39.6 | 32.8 | 27.6 | 20.3 | 15.5 |
| | | L/180 | 582.3 | 298.1 | 172.5 | 108.7 | 72.8 | 51.1 | 37.3 | 28.0 | 21.6 | 13.6 | 9.1 |
| | TS | Stress | 280.8 | 181.9 | 127.1 | 93.8 | 72.0 | 57.0 | 46.2 | 38.2 | 32.1 | 23.6 | 18.1 |
| | | L/180 | 456.6 | 233.8 | 135.3 | 85.2 | 57.1 | 40.1 | 29.2 | 22.0 | 16.9 | 10.6 | 7.1 |
| 26 | SS | Stress | 308.1 | 197.2 | 136.9 | 100.6 | 77.0 | 60.9 | 49.3 | 40.7 | 34.2 | 25.2 | 19.3 |
| | | L/180 | 300.9 | 154.1 | 89.2 | 56.1 | 37.6 | 26.4 | 19.3 | 14.5 | 11.1 | 7.0 | 4.7 |
| | DS | Stress | 300.0 | 193.8 | 135.3 | 99.7 | 76.5 | 60.5 | 49.1 | 40.6 | 34.1 | 25.1 | 19.2 |
| | | L/180 | 724.2 | 370.8 | 214.6 | 135.1 | 90.5 | 63.6 | 46.4 | 34.8 | 26.8 | 16.9 | 11.3 |
| | TS | Stress | 347.5 | 225.1 | 157.4 | 116.1 | 89.1 | 70.5 | 57.2 | 47.3 | 39.8 | 29.3 | 22.4 |
| | | L/180 | 567.8 | 290.7 | 168.2 | 106.0 | 71.0 | 49.9 | 36.3 | 27.3 | 21.0 | 13.2 | 8.9 |
| **Ga.** | **Span Condition** | | **Allowable Uplift or Outward Loads (lb/ft$^2$)** | | | | | | | | | | |
| | | | **Span (ft)** | | | | | | | | | | |
| | | | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 7 | 8 |
| 29 | SS | Stress | 248.9 | 159.3 | 110.6 | 81.3 | 62.2 | 49.2 | 39.8 | 32.9 | 27.7 | 20.3 | 15.6 |
| | | L/180 | 241.9 | 123.9 | 71.7 | 45.1 | 30.2 | 21.2 | 15.5 | 11.6 | 9.0 | 5.6 | 3.8 |
| | DS | Stress | 242.4 | 156.6 | 109.3 | 80.6 | 61.8 | 48.9 | 39.6 | 32.8 | 27.6 | 20.3 | 15.5 |
| | | L/180 | 582.3 | 298.1 | 172.5 | 108.7 | 72.8 | 51.1 | 37.3 | 28.0 | 21.6 | 13.6 | 9.1 |
| | TS | Stress | 280.8 | 181.9 | 127.1 | 93.8 | 72.0 | 57.0 | 46.2 | 38.2 | 32.1 | 23.6 | 18.1 |
| | | L/180 | 456.6 | 233.8 | 135.3 | 85.2 | 57.1 | 40.1 | 29.2 | 22.0 | 16.9 | 10.6 | 7.1 |
| 26 | SS | Stress | 308.1 | 197.2 | 136.9 | 100.6 | 77.0 | 60.9 | 49.3 | 40.7 | 34.2 | 25.2 | 19.3 |
| | | L/180 | 300.9 | 154.1 | 89.2 | 56.1 | 37.6 | 26.4 | 19.3 | 14.5 | 11.1 | 7.0 | 4.7 |
| | DS | Stress | 300.0 | 193.8 | 135.3 | 99.7 | 76.5 | 60.5 | 49.1 | 40.6 | 34.1 | 25.1 | 19.2 |
| | | L/180 | 724.2 | 370.8 | 214.6 | 135.1 | 90.5 | 63.6 | 46.4 | 34.8 | 26.8 | 16.9 | 11.3 |
| | TS | Stress | 347.5 | 225.1 | 157.4 | 116.1 | 89.1 | 70.5 | 57.2 | 47.3 | 39.8 | 29.3 | 22.4 |
| | | L/180 | 567.8 | 290.7 | 168.2 | 106.0 | 71.0 | 49.9 | 36.3 | 27.3 | 21.0 | 13.2 | 8.9 |

**Notes on Load Table:**

1. Allowable load based on stress is the smallest load due to bending, shear and combined bending and shear.
2. Allowable load based on deflection limit cannot exceed allowable load based on stress.
3. These loads are for panel strength. Frames, purlins, fasteners and all supports must be designed to resist all loads imposed on the panel.
4. Allowable uplift loads based on stress have not been increased by 33.33 % for wind uplift.
5. Allowable loads for deflection are based on deflection limitation of span/180.
6. For roof panels, self weight of the panel has to be deducted from the allowable inward load to arrive at the actual 'live load' carrying capacity of the panel.
7. SS = Simple span, DS = Double Span and TS = Three or more spans

| AllSouth Pre-Engineered Components, LLC (APEC) 32" wide PCB Panel | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ga.** | **Span Condition** | | **Allowable Live or Inward Loads (lb/ft$^2$)** | | | | | | | | | | |
| | | | **Span (ft)** | | | | | | | | | | |
| | | | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 7 | 8 |
| 24 | SS | Stress | 330.0 | 211.2 | 146.7 | 107.8 | 82.5 | 65.2 | 52.8 | 43.6 | 36.7 | 26.9 | 20.6 |
| | | L/180 | 390.8 | 200.1 | 115.8 | 72.9 | 48.8 | 34.3 | 25.0 | 18.8 | 14.5 | 9.1 | 6.1 |
| | DS | Stress | 321.0 | 207.4 | 144.8 | 106.8 | 81.9 | 64.8 | 52.6 | 43.5 | 36.6 | 26.9 | 20.6 |
| | | L/180 | 940.5 | 481.5 | 278.7 | 175.5 | 117.6 | 82.6 | 60.2 | 45.2 | 34.8 | 21.9 | 14.7 |
| | TS | Stress | 371.8 | 240.9 | 168.5 | 124.3 | 95.4 | 75.5 | 61.3 | 50.7 | 42.6 | 31.3 | 24.0 |
| | | L/180 | 737.4 | 377.5 | 218.5 | 137.6 | 92.2 | 64.7 | 47.2 | 35.5 | 27.3 | 17.2 | 11.5 |
| 22 | SS | Stress | 410.6 | 262.8 | 182.5 | 134.1 | 102.7 | 81.1 | 65.7 | 54.3 | 45.6 | 33.5 | 25.7 |
| | | L/180 | 492.4 | 252.1 | 145.9 | 91.9 | 61.6 | 43.2 | 31.5 | 23.7 | 18.2 | 11.5 | 7.7 |
| | DS | Stress | 399.0 | 258.0 | 180.1 | 132.8 | 101.9 | 80.6 | 65.4 | 54.1 | 45.5 | 33.4 | 25.6 |
| | | L/180 | 1185.2 | 606.8 | 351.2 | 221.2 | 148.2 | 104.1 | 75.9 | 57.0 | 43.9 | 27.6 | 18.5 |
| | TS | Stress | 462.0 | 299.5 | 209.5 | 154.6 | 118.7 | 94.0 | 76.2 | 63.1 | 53.0 | 39.0 | 29.9 |
| | | L/180 | 929.3 | 475.8 | 275.3 | 173.4 | 116.2 | 81.6 | 59.5 | 44.7 | 34.4 | 21.7 | 14.5 |
| **Ga.** | **Span Condition** | | **Allowable Uplift or Outward Loads (lb/ft$^2$)** | | | | | | | | | | |
| | | | **Span (ft)** | | | | | | | | | | |
| | | | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 7 | 8 |
| 24 | SS | Stress | 330.0 | 211.2 | 146.7 | 107.8 | 82.5 | 65.2 | 52.8 | 43.6 | 36.7 | 26.9 | 20.6 |
| | | L/180 | 390.8 | 200.1 | 115.8 | 72.9 | 48.8 | 34.3 | 25.0 | 18.8 | 14.5 | 9.1 | 6.1 |
| | DS | Stress | 321.0 | 207.4 | 144.8 | 106.8 | 81.9 | 64.8 | 52.6 | 43.5 | 36.6 | 26.9 | 20.6 |
| | | L/180 | 940.5 | 481.5 | 278.7 | 175.5 | 117.6 | 82.6 | 60.2 | 45.2 | 34.8 | 21.9 | 14.7 |
| | TS | Stress | 371.8 | 240.9 | 168.5 | 124.3 | 95.4 | 75.5 | 61.3 | 50.7 | 42.6 | 31.3 | 24.0 |
| | | L/180 | 737.4 | 377.5 | 218.5 | 137.6 | 92.2 | 64.7 | 47.2 | 35.5 | 27.3 | 17.2 | 11.5 |
| 22 | SS | Stress | 410.6 | 262.8 | 182.5 | 134.1 | 102.7 | 81.1 | 65.7 | 54.3 | 45.6 | 33.5 | 25.7 |
| | | L/180 | 492.4 | 252.1 | 145.9 | 91.9 | 61.6 | 43.2 | 31.5 | 23.7 | 18.2 | 11.5 | 7.7 |
| | DS | Stress | 399.0 | 258.0 | 180.1 | 132.8 | 101.9 | 80.6 | 65.4 | 54.1 | 45.5 | 33.4 | 25.6 |
| | | L/180 | 1185.2 | 606.8 | 351.2 | 221.2 | 148.2 | 104.1 | 75.9 | 57.0 | 43.9 | 27.6 | 18.5 |
| | TS | Stress | 462.0 | 299.5 | 209.5 | 154.6 | 118.7 | 94.0 | 76.2 | 63.1 | 53.0 | 39.0 | 29.9 |
| | | L/180 | 929.3 | 475.8 | 275.3 | 173.4 | 116.2 | 81.6 | 59.5 | 44.7 | 34.4 | 21.7 | 14.5 |

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1216 N. Lansing Ave. Suite C
Tulsa, OK 74106
918 492 5992



Bala Sockalingam, Ph.D., P.E.