33 Technology Park Drive
Falmouth, MA 02536
800-431-2274
sales@acculam.com

# Acculam

## MATERIAL SPECIFICATION DATA SHEET

SHEETS
TUBES
RODS
ANGLES

06/18/24

| ACCULAM | G10 | FR4 | G11 | FR5 | G7 | G5 | G9 | G3 | C/CE | L/LE | XX | XXX | G14 | GPO-1 | GPO -3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NEMA GRADE | G10 | FR4 | G11 | FR5 | G7 | G5 | G9 | G3 | C/CE | L/LE | XX | XXX | N/A | GPO-1 | GPO -3 |
| REINFORCEMENT | GLASS | GLASS | GLASS | GLASS | GLASS | GLASS | GLASS | GLASS | CANVAS | LINEN | PAPER | PAPER | GLASS | POLYESTER | POLYESTER |
| BINDER | EPOXY | EPOXY | EPOXY | EPOXY | SILICONE | MELAMINE | MELAMINE | PHENOLIC | PHENOLIC | PHENOLIC | PHENOLIC | PHENOLIC | PROPRIETARY | POLYMAT 1 | POLYMAT 3 |
| SPEC MIL-I-24768 | /2 | /27 | /3 | /28 | /17 | /8 | /1 | /18 | /16 , /14 | /15 , /13 | /11 | /10 | N/A | /4 | /6 |
| MIL TYPE | GEE | GEE-F | GEB | GEB-F | GSG | GMG | GME | GPG | FBM / FBG | FBI / FBE | PBG | PBE | N/A | GPO N-1 | GPO N-3 |
| COMRESSION STRENGTH | | | | | | | | | | | | | | | |
| LENGTHWISE - PSI | 60,000 | 60,000 | 60,000 | 60,000 | 25,000 | 50,000 | 70,000 | 50,000 | 39,000 | 37,000 | 34,000 | 32,000 | 50,000 | 30,000 | 30,000 |
| CROSSWISE - PSI | 35,000 | 35,000 | 35,000 | 35,000 | 14,000 | 25,000 | 25,000 | 35,000 | 24,500 | 25,000 | 23,000 | 25,500 | 35,000 | - | - |
| FLEXURAL STRENGTH | | | | | | | | | | | | | | | |
| LENGTHWISE - PSI | 55,000 | 55,000 | 55,000 | 55,000 | 20,000 | 55,000 | 55,000 | 50,000 | 17,000 | 16,500 | 15,000 | 13,500 | 50,000 | 18,000 | 18,000 |
| CROSSWISE - PSI | 45,000 | 45,000 | 45,000 | 45,000 | 18,000 | 35,000 | 35,000 | 35,000 | 16,000 | 14,000 | 14,000 | 11,800 | 35,000 | - | - |
| TENSILE STRENGTH | | | | | | | | | | | | | | | |
| LENGTHWISE - PSI | 50,000 | 50,000 | 50,000 | 50,000 | 23,000 | 37,000 | 37,000 | 50,000 | 9,000 | 12,500 | 16,000 | 15,000 | 50,000 | 8,000 | 8,000 |
| CROSSWISE - PSI | 35,000 | 35,000 | 35,000 | 35,000 | 18,000 | 30,000 | 30,000 | 35,000 | 7,000 | 8,750 | 13,000 | 12,000 | 35,000 | - | - |
| BOND STRENGTH - LBS | 2,000 | 2,000 | 1,600 | 1,600 | 650 | 1,700 | 1,700 | 1,500 | 1,800 | 1,600 | 1,500 | 1,200 | 1,500 | 850 | 850 |
| SPECIFIC GRAVITY | 1.80 | 1.85 | 1.80 | 1.85 | 1.68 | 1.90 | 1.90 | 1.65 | 1.36 | 1.34 | 1.34 | 1.32 | 1.65 | 1.80 | 1.85 |
| WATER ABSORPTION @ 24 HRS | | | | | | | | | | | | | | | |
| % AT .062" THICKNESS | 0.25 | 0.25 | 0.25 | 0.25 | 0.55 | 0.80 | 0.80 | 2.70 | 4.4 / 2.2 | 2.5 / 1.95 | 2.00 | 1.40 | 2.70 | 1.00 | 0.60 |
| % AT .125" THICKNESS | 0.15 | 0.15 | 0.15 | 0.15 | 0.35 | 0.70 | 0.70 | 2.00 | 2.5 / 1.6 | 1.6 / 1.3 | 1.30 | 0.95 | 2.00 | 0.70 | 0.50 |
| % AT .500" THICKNESS | 0.10 | 0.10 | 0.10 | 0.10 | 0.20 | 0.40 | 0.40 | 1.50 | 1.2 / .75 | 0.9 / 0.7 | 0.55 | 0.45 | 1.50 | 0.35 | 0.25 |
| TEMP INDEX .062"< | | | | | | | | | | | | | | | |
| MECHANICAL - *C | 140 | 140 | 180 | 180 | 220 | 140 | 140 | 170 | 125 | 125 | 140 | 140 | 170 | N/A | 140 |
| ELECTRICAL -*C | 130 | 130 | 170 | 170 | 170 | N/A | N/A | 140 | 115 | 115 | 140 | 140 | 140 | N/A | 120 |
| IZOD IMPACT STRENGTH | | | | | | | | | | | | | | | |
| lenghtwise ft/lb/in of notch | 7.0 | 7.0 | 7.0 | 7.0 | 6.5 | 7.0 | 7.0 | 6.5 | 2.1 / 1.6 | 1.35 / 1.25 | 0.40 | 0.40 | 6.5 | 8.0 | 8.0 |
| crosswise ft/lb/in of notch | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 1.9 / 1.4 | 1.1 / 1.0 | 0.35 | 0.35 | 5.5 | N/A | N/A |
| DISSAPATION FACTOR | | | | | | | | | | | | | | | |
| Condition A - 1 Megacylce | 0.025 | 0.025 | 0.025 | 0.025 | 0.003 | 0.017 | 0.017 | N/A | N/A | 0.055 | 0.045 | 0.038 | N/A | 0.030 | 0.030 |
| DIELECTRIC CONSTANT | | | | | | | | | | | | | | | |
| Condition A - 1 Megacylce | 5.2 | 5.2 | 5.2 | 5.2 | 4.2 | 7.8 | 7.2 | N/A | N/A | N/A | N/A | N/A | N/A | 4.3 | 4.3 |
| INSULATION RESISTANCE | | | | | | | | | | | | | | | |
| Condition C - Megahoms | 200,000 | 200,000 | 200,000 | 200,000 | 100,000 | 10,000 | 10,000 | N/A | N/A | N/A | 60 | 1,000 | N/A | N/A | N/A |
| ARC RESISTANCE - Seconds | N/A | N/A | N/A | N/A | 180 | 180 | 180 | N/A | N/A | N/A | N/A | N/A | N/A | 100 | 150 |
| ROCKWELL HARDNESS M SCALE | 111 | 110 | 112 | 114 | 100 | 120 | 120 | 100 | 104 | 105 | 105 | 110 | 100 | 100 | 100 |
| HALOGEN FREE | YES | NO | YES | NO | YES | YES | YES | YES | YES | YES | YES | YES | YES | NO | NO |

**NOTE:** The values provided above are averages based on test samples. The user must determine the appropriate product for it's specific application and use to ensure that said product functions as intended. The performance characteristics attributed to the products described above are based on assumptions of typical and common use as they were intended.