



# ENGINEERING DATA SHEET

## GRADE: SPAULDITE® T-602 LAMINATE SHEET

Revision: 01 Issued: 4/19/2007

Spaldite® grade T-602 is a graphitized, cotton fabric base, phenolic laminate which combines a low co-efficient of friction with excellent resistance to wear, physical toughness, and a good mechanical strength. Natural graphite is distributed throughout the laminate so tht lubricant is always present at the wearing surface. Grade T-602 will support heavy compressive loading and exhibits excellent resistance to “forging” or cold flow under heavy loads.

### MAJOR FEATURES

- Low coefficient of friction
- Good mechanical strength
- Physical toughness
- Resists “forging” under load
- Uniform graphite distribution
- Good wear resistance

### Applications

One of the most efficient solid bearing material available, Grade T-602 is particularly suitable where lubrication is difficult or where heavy compressive or impact loads are involved. Grade T-602 may be used for many applications without lubrication, or lubricated with water, grease, oil or other non-corrosive fluids. Examples are bearing and wear members in marine installations, pumps, conveyors, agricultural and earth-moving equipment, machine tools, papermaking machinery, sawmill and logging equipment.

### ELECTRICAL CHARACTERISTICS

T-602 is not recommended for use as electrical insulation.

### MECHANICAL CHARACTERISTICS

T-602 has excellent flexural and compressive strength, combined with good impact strength, resulting in its ability to absorb physical shock and abuse without deformation. With natural graphite content T-602 is suitable for many bearing and wear member applications without additional lubrication, particularly where operating temperatures do not exceed 130°F to 150°F, or it may be lubricated or cooled with water, oil, grease or other non-corrosive fluids.

### FABRICATION

T-602 can be machined quite readily with standard production equipment. Use of carbide cutting tools is suggested for most operations.

Surface can be ground or sanded. Good machining practices will produce very smooth surfaces, intricate shapes, and close tolerances.

STANDARD SHEET SIZE 36" x 48"  
36" x 42"

COLOR: GREENISH BLACK

THICKNESS: .024" – 7.000



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### PROPERTY CHARACTERISTICS

| PROPERTY                      | ASTM TEST METHOD | CONDITIONING & TYPE OF TEST                                 | THICKNESS INCHES | AVERAGE TYPICAL VALUES   |                        | INDUSTRY REQUIREMENTS         |                             |
|-------------------------------|------------------|---|------------------|--------------------------|------------------------|-------------------------------|-----------------------------|
|                               |                  |   |                  | ENGLISH                  | SI                     | ENGLISH                       | SI                          |
| <b>MECHANICAL</b>             |                  |   |                  |                          |                        |                               |                             |
| Bonding Strength              | D-229            | A<br>D-48/50  | .500             | 2300 lbs<br>1940 lbs     | 10.23 KN<br>8.63 KN    | ≥1,800 lbs<br>≥1,600 lbs      | ≥8.00 kN<br>≥7.12 kN        |
| Compressive Strength Flatwise | D-229            | A<br>Flatwise   | .176             | 38.6 ksi                 | 266.1 MPa              | ≥31.5 ksi                     | ≥217.0MPa                   |
| Flexural Strength Flatwise    | D-229            | A<br>Lengthwise<br>Crosswise                                | .176             | 26.1 ksi                 | (MPa)<br>180.0         | ≥17.0 ksi                     | (MPa)<br>≥117.2             |
|                               |                  |   | .176             | 14.6 ksi                 | 100.7                  | ≥14.0 ksi                     | ≥96.5                       |
| Flexural Modulus Flatwise     | D-229            | A<br>Lengthwise<br>Crosswise                                | .176             | 1750 ksi                 | (GPa)<br>12.1          | NR                            | NR                          |
|                               |                  |   | .176             | 980 ksi                  | 6.8                    | NR                            | NR                          |
| Izod Impact Edgewise Notched  | D-229            | E-48/50<br>Lengthwise<br>Crosswise                          | .176             | 2.5 ft-lbs/in            | .134 J/mm              | ≥1.60 ft-lbs/in               | ≥.085 J/mm                  |
|                               |                  |   | .176             | 2.1 ft-lbs/in            | .112 J/mm              | ≥1.40 ft-lbs/in               | ≥.075 J/mm                  |
| Tensile Strength              | D-229            | A<br>Lengthwise<br>Crosswise                                | .176             | 13.9 ksi                 | 95.8 MPa               | ≥5.1 ksi                      | ≥35 MPa                     |
|                               |                  |   | .176             | 11.3 ksi                 | 77.9 MPa               | NR                            | NR                          |
| Taber Abrasion Wear Index     | D-4060           | A<br>Abradant: CS 17<br>Load: 1000 Gram<br>Wear Cycles:2000 | .125             | 47.4                     | 47.4                   | NR                            | NR                          |
| <b>PHYSICAL</b>               |                  |   |                  |                          |                        |                               |                             |
| Density                       | D-792            | A   | .176             | .051 lbs/in <sup>3</sup> | 1.40 g/cm <sup>3</sup> | .045-.051 lbs/in <sup>3</sup> | 1.25-1.40 g/cm <sup>3</sup> |
| Rockwell Hardness             | D-229            | A   | .176             | M-105                    | M-105                  | 90-115                        | 90-115                      |
| Water Absorption              | D-229            | D1-24/23  | .176             | .68%                     | .68%                   | NR                            | NR                          |
| Coefficient of friction (dry) | Tappi T-03SU-67  | -   | -                | TBD                      | TBD                    | NR                            | NR                          |
| Deformation under load        | D-621            | E-4/65  | .500             | .45%                     | .45%                   | ≤.47%                         | ≤.47%                       |