

# APICAL® T55N20



**APICAL®** Polyimide possesses an excellent balance of Physical, thermal, electrical and chemical properties over a wide range of temperature (-269°C to 400°C). More precise thickness control, superior web flatness, plus improved adhesion and excellent dimensional stability are standard features with APICAL Polyimide. This coated version of Apical has a thermal stability up to 260°C.

## Characteristics

Improved Bond/Peel Strengths  
Optimal Flexibility  
Excellent Dielectric Properties  
Ideal Elongation

## Applications

Aircraft Wire and Cable  
Traction Equipment  
Down Hole Motors  
Magnet Wire  
Mining Equipment

## Construction

| Items             | Mils | Microns |
|-------------------|------|---------|
| Nominal Thickness | 2.98 | 75.4    |
| FP                | 0.5  | 12.7    |
| PI                | 1.98 | 50.0    |
| FP                | 0.5  | 12.7    |

## Mechanical Properties

| Items                           | Typical Values | Test Method |
|---------------------------------|----------------|-------------|
| Tensile Strength MD, kpsi (MPa) | 27 (188)       | ASTM D882   |
| Tensile Strength TD, kpsi (MPa) | 28 (194)       | ASTM D882   |
| Tensile Modulus MD, kpsi (GPa)  | 378 (2.6)      | ASTM D882   |
| Tensile Modulus TD, kpsi (GPa)  | 378 (2.6)      | ASTM D882   |
| Elongation MD (TD), %           | 75 (75)        | ASTM D882   |

## Thermal Properties

| Items                                        | Typical Values | Test Method         |
|----------------------------------------------|----------------|---------------------|
| Heat Shrinkage MD %                          | 0.08           | 200°C – 2 hrs       |
| Heat Shrinkage TD %                          | 0.03           | 200°C – 2 hrs       |
| Heat Seal Strength,<br>FEP-FEP, ginch (g/cm) | 1700 (669)     | 350°C, 20sec, 20psi |

### Electrical Properties

| Items                       | Units | Test Method |
|-----------------------------|-------|-------------|
| Dielectric Strength, KV/mil | 4.2   | ASTM D149   |

### Physical Properties

| Items                                           | Units  | Test Method     |
|-------------------------------------------------|--------|-----------------|
| Water Absorption, %                             | 1.8    | IPC-TM650-2.6.2 |
| Density, g/cm <sup>3</sup>                      | 1.66   | ASTM D1505      |
| Yield, ft <sup>2</sup> /lb (m <sup>2</sup> /kg) | 39 (8) |                 |

The data noted in these technical data sheets are given as examples and are not intended to be read as guaranteed values.

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