



# ELL 101 - Dielectric Properties Table

LAMINATE:

| Thickness | & | Tol.   | Construction |      |   |   |      | Nominal Thickness (inch) | RC%   | 10 GHz Dk | 10 GHz Df |
|-----------|---|--------|--------------|------|---|---|------|--------------------------|-------|-----------|-----------|
| 0.0020    | ± | 0.0005 | 1            | 1035 |   |   |      | 0.0020                   | 67.0% | 3.13      | 0.0013    |
| 0.0025    | ± | 0.0005 | 1            | 1078 |   |   |      | 0.0026                   | 60.0% | 3.20      | 0.0015    |
| 0.0030    | ± | 0.0005 | 1            | 1078 |   |   |      | 0.0031                   | 66.0% | 3.14      | 0.0014    |
| 0.0035    | ± | 0.0005 | 1            | 2013 |   |   |      | 0.0036                   | 54.0% | 3.28      | 0.0016    |
| 0.0040    | ± | 0.0005 | 2            | 1035 |   |   |      | 0.0040                   | 67.0% | 3.13      | 0.0013    |
| 0.0045    | ± | 0.0005 | 2            | 1035 |   |   |      | 0.0046                   | 71.0% | 3.09      | 0.0013    |
| 0.0050    | ± | 0.0007 | 1            | 2116 |   |   |      | 0.0051                   | 57.0% | 3.24      | 0.0015    |
| 0.0050    | ± | 0.0007 | 2            | 1078 |   |   |      | 0.0051                   | 60.0% | 3.20      | 0.0015    |
| 0.0060    | ± | 0.0007 | 2            | 1078 |   |   |      | 0.0062                   | 66.0% | 3.14      | 0.0014    |
| 0.0070    | ± | 0.001  | 2            | 2013 |   |   |      | 0.0071                   | 53.0% | 3.29      | 0.0016    |
| 0.0080    | ± | 0.001  | 2            | 2013 |   |   |      | 0.0080                   | 57.5% | 3.23      | 0.0015    |
| 0.0090    | ± | 0.001  | 1            | 2116 | + | 1 | 2116 | 0.0091                   | 52.9% | 3.29      | 0.0016    |
| 0.0100    | ± | 0.001  | 2            | 2116 |   |   |      | 0.0101                   | 57.0% | 3.24      | 0.0015    |
| 0.0120    | ± | 0.0015 | 2            | 2013 | + | 1 | 2116 | 0.0123                   | 55.2% | 3.26      | 0.0016    |
| 0.0140    | ± | 0.0015 | 2            | 2116 | + | 1 | 2116 | 0.0142                   | 54.4% | 3.27      | 0.0016    |
| 0.0150    | ± | 0.0015 | 2            | 2116 | + | 1 | 2116 | 0.0152                   | 57.0% | 3.24      | 0.0015    |
| 0.0160    | ± | 0.0015 | 2            | 1078 | + | 2 | 2116 | 0.0163                   | 60.3% | 3.20      | 0.0015    |
| 0.0160    | ± | 0.0015 | 4            | 2116 |   |   |      | 0.0161                   | 48.0% | 3.36      | 0.0018    |
| 0.0180    | ± | 0.0015 | 2            | 2116 | + | 2 | 2116 | 0.0182                   | 52.9% | 3.29      | 0.0016    |
| 0.0200    | ± | 0.0025 | 4            | 2116 |   |   |      | 0.0203                   | 57.0% | 3.24      | 0.0015    |



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|-----------|---|--------|--------------|------|---|---|------|--------------------------|-------|-----------|-----------|
| 0.0240    | ± | 0.0025 | 4            | 2116 | + | 1 | 2116 | 0.0243                   | 55.5% | 3.26      | 0.0016    |
| 0.0250    | ± | 0.0025 | 5            | 2116 |   |   |      | 0.0253                   | 57.0% | 3.24      | 0.0015    |
| 0.0280    | ± | 0.0025 | 5            | 2116 | + | 1 | 1078 | 0.0284                   | 57.9% | 3.23      | 0.0015    |
| 0.0300    | ± | 0.0025 | 6            | 2116 |   |   |      | 0.0304                   | 57.0% | 3.24      | 0.0015    |
| 0.0390    | ± | 0.004  | 7            | 2116 | + | 1 | 2013 | 0.0400                   | 57.5% | 3.23      | 0.0015    |

PREPREG:

| Glass | RC% | 10GHz Dk | 10GHz Df | Thickness (inches) | Thickness (µm) |
|-------|-----|----------|----------|--------------------|----------------|
| 1035  | 73  | 3.07     | 0.0012   | 0.0025             | 63.2           |
| 1035  | 76  | 3.04     | 0.0012   | 0.0028             | 71.9           |
| 1035  | 78  | 3.03     | 0.0011   | 0.0031             | 79.1           |
| 1078  | 70  | 3.10     | 0.0013   | 0.0035             | 88.0           |
| 1078  | 75  | 3.05     | 0.0012   | 0.0042             | 107.8          |

The following laminate and prepreg items are a representative of available materials. These items and their associated values may not be regularly available and additional lead times or minimum order quantities could apply. Please contact our office or your local technical representative for assistance with choosing the best material for your design and application.

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