

Dielectric Properties

The following tables list the dielectric property values measured by various independent institutes.

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ROHACELL® IG and ROHACELL® A

Dielectric properties of ROHACELL® IG and ROHACELL® A

| Properties | Unit | ROHACELL® 31 IG/ A | ROHACELL® 51 IG/A | ROHACELL® 71 IG/A | ROHACELL® 110 IG/A |
|----------------------------|------|-----------------------|----------------------|----------------------|-----------------------|
| ϵ' (f = 10 GHz) | | 1.05 | 1.071 | 1.09 | 1.12 |
| $\tan \delta$ (f = 10 GHz) | | 0.0017 | 0.0031 | 0.0034 | 0.0046 |

Source: Institut für Hochfrequenztechnik, Technische Universität Darmstadt, July 2004

The data of this table are representative values, but not to be used to establish specifications

Dielectric properties of ROHACELL® IG and ROHACELL® A

| Properties | Unit | ROHACELL® 31 IG/ A | ROHACELL® 51 IG/A | ROHACELL® 71 IG/A | ROHACELL® 110 IG/A |
|------------------------------|------|-----------------------|----------------------|----------------------|-----------------------|
| ϵ' (f = 2.5 GHz) | | 1.05 | 1.05 | 1.08 | TBD |
| $\tan \delta$ (f = 2.5 GHz) | | 0.0003 | 0.0003 | 0.0003 | TBD |
| ϵ' (f = 5 GHz) | | 1.06 | 1.07 | 1.1 | TBD |
| $\tan \delta$ (f = 5 GHz) | | 0.0011 | 0.0006 | 0.0011 | TBD |
| ϵ' (f = 10 GHz) | | 1.06 | 1.07 | 1.08 | TBD |
| $\tan \delta$ (f = 10 GHz) | | 0.0039 | 0.0021 | 0.0035 | TBD |
| ϵ' (f = 26.5 GHz) | | 1.05 | 1.07 | 1.08 | TBD |
| $\tan \delta$ (f = 26.5 GHz) | | 0.0034 | 0.0037 | 0.0044 | TBD |

Source: Seavey Engineering Ass., Report 8867-700

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ROHACELL® HF

Dielectric properties of ROHACELL® HF

| Properties | Unit | ROHACELL® 31 HF | ROHACELL® 51 HF | ROHACELL® 71 HF |
|----------------------------|------|--------------------|--------------------|--------------------|
| ϵ' (f = 10 GHz) | | 1.04 | 1.08 | 1.10 |
| $\tan \delta$ (f = 10 GHz) | | 0.0017 | 0.0021 | 0.0026 |

Source: Institut für Hochfrequenztechnik, Technische Universität Darmstadt, July 2004

The data of this table are representative values, but not to be used to establish specifications

Dielectric properties of ROHACELL® HF

| Properties | Unit | ROHACELL® 31 HF | ROHACELL® 51 HF | ROHACELL® 71 HF |
|------------------------------|------|--------------------|--------------------|--------------------|
| ϵ' (f = 2.5 GHz) | | 1.05 | 1.06 | 1.07 |
| $\tan \delta$ (f = 2.5 GHz) | | <0.0002 | <0.0002 | <0.0002 |
| ϵ' (f = 5 GHz) | | 1.04 | 1.06 | 1.106 |
| $\tan \delta$ (f = 5 GHz) | | 0.0016 | 0.0008 | 0.0016 |
| ϵ' (f = 10 GHz) | | 1.04 | 1.07 | 1.09 |
| $\tan \delta$ (f = 10 GHz) | | 0.0017 | 0.0041 | 0.0038 |
| ϵ' (f = 26.5 GHz) | | 1.04 | 1.05 | 1.09 |
| $\tan \delta$ (f = 26.5 GHz) | | 0.0106 | 0.0135 | 0.0155 |

Source: Seavey Engineering Ass., Report 8867-700

The data of this table are representative values, but not to be used to establish specifications

ROHACELL® WF

Dielectric properties of ROHACELL® WF

| Properties | Unit | ROHACELL® 51 WF | ROHACELL® 71 WF | ROHACELL® 110 WF | ROHACELL® 200 WF |
|----------------------------|------|--------------------|--------------------|---------------------|---------------------|
| ϵ' (f = 10 GHz) | | 1.07 | 1.10 | 1.16 | TBD |
| $\tan \delta$ (f = 10 GHz) | | 0.0035 | 0.0041 | 0.0055 | TBD |

Source: Institut für Hochfrequenztechnik, Technische Universität Darmstadt, July 2004

The data of this table are representative values, but not to be used to establish specifications

Dielectric properties of ROHACELL® WF

| Properties | Unit | ROHACELL® 51 WF | ROHACELL® 71 WF | ROHACELL® 110 WF | ROHACELL® 200 WF |
|------------------------------|------|--------------------|--------------------|---------------------|---------------------|
| ϵ' (f = 2.5 GHz) | | 1.06 | 1.07 | 1.09 | 3.25 |
| $\tan \delta$ (f = 2.5 GHz) | | 0.0003 | 0.0003 | 0.003 | 0.0055 |
| ϵ' (f = 5 GHz) | | 1.08 | 1.10 | 1.19 | 3.05 |
| $\tan \delta$ (f = 5 GHz) | | 0.0008 | 0.0012 | 0.0014 | 0.0044 |
| ϵ' (f = 10 GHz) | | 1.08 | 1.11 | 1.16 | 2.86 |
| $\tan \delta$ (f = 10 GHz) | | 0.0038 | 0.0044 | 0.0056 | 0.047 |
| ϵ' (f = 26.5 GHz) | | 1.07 | 1.08 | 1.12 | 3.37 |
| $\tan \delta$ (f = 26.5 GHz) | | 0.0045 | 0.0047 | 0.0059 | 0.046 |

Source: Seavey Engineering Ass., Report 8867-700

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® = registered trademark

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