Filter Spec Sheet

**Kind**

Low-pass, high-pass, band-pass, stop-band.

**Bandwidth (Hz)**

**Center Frequency (Hz)**

Relevant only for band-pass and stop-band.

**Type**

Chebychev, Butterworth, etc.

**Order**

**Input/Output Impedance**

This describes the input impedance for pass-band frequencies.

**Insertion Loss (dB)**

Insertion Loss is the value of $T(\omega)$ in the pass band, expressed in decibels.
\[ IL = -10 \log_{10} T(\omega) \]

Although ideally this would be 0 dB \((T(\omega) = 1)\), we find that there is always a little bit of power absorbed by the filter, and thus \(T(\omega)\) is slightly less than one (again, in the pass-band).

As a result, the insertion loss of most filters is typically 1 dB or less (e.g., 0.2 dB), but can approach 2 or 3 dB for filters of very high order \(N\).

**Maximum Input Power (Watts)**

You can only put so much signal power into a passive filter! Exceeding this spec will typically result in filter destruction.