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/Ouput Impedance

This describes the input impedance for **pass-band** frequencies.

Insertion Loss (dB)

Insertion Loss is the value of $\mathbf{T}(\omega)$ **in the pass band**, expressed in decibels.

$$IL = -10\log_{10} \mathbf{T}(\omega)$$

Although ideally this would be 0 dB ($\mathbf{T}(\omega) = 1$), we find that there is always a **little** bit of power **absorbed** by the filter, and thus $\mathbf{T}(\omega)$ 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**.