

**response time (of a detector),  $\tau_R$**

The time required for the detector output to go from the initial value to a percentage (e.g. 99%) of the final value. In the case of an exponential behaviour of the detector  $\tau_R$  can be related to the *time constant*  $\tau_c$ . The *rise time*  $\tau_r$  is the time required for the detector output to vary between given percentages (e.g. from 10% to 90%) of the final value. Similarly, the *fall time*  $\tau_f$  is the time required for the detector output to vary between given percentages (e.g. from 90% to 10%) of the initial value.

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