Drift Tube Quality Control

Measurement	Requirement
1. X-ray meas. of wire location	$\leq 10\ \mu m$ (rms)
2. Wire tension at 20° C $\Longrightarrow$ Oscillation frequency $\Longrightarrow$ Wire sag	350 ± 7 g (rms) 40 ± 0.4 Hz (rms) $195 \pm 4\ \mu m$ (rms)
3. Wire relaxation after 2 months	< 1 Hz Δsag $< 10\ \mu m$
4. Gas leak rate at 3 bar	$\leq 10^{-8}$ bar$\cdot l$/s
5. HV test with Ar:CO_2 (93:7) gas at 3 bar: Dark current at 3.4 kV ($1.6 \cdot 10^5$ gas gain)	≤ 2 nA/m
6. Tube length	3800 ± 0.2mm

Overall drift tube rejection rate $< 2\%$