

Summary of all TT scan

Mean TT at spec

PbWO4 crystal quality specifications for mass production order

Parameter	Unit	NPS Required	NPS Acceptable	CMS Limit	PANDA Limit	Inform. Source
Light Yield (LY) at RT (for all sides polished crystals)	pe/MeV	≥15	≥10	≥8	≥16	Test with γ-source
LY uniformity between blocks	%	10%	20%			Test
LY(100ns)/LY(1μs)	%	>95	>90	>90	>90	Test
Longitudinal Transmission at λ=360 nm	%			≥25	≥35	Optic. Measure.
at λ=420 nm	%			≥55	≥60	
at λ=620 nm	%			≥65	≥70	
Transverse Transmission and LY uniformity along crystal	%	10	15			Optic. Measure.
Inhomogeneity of Transverse Transmission Δλ at T=50%	nm	≤5	≤10	≤3	≤3	Optic. Measure.
Induced radiation absorption coefficient Δk at λ=420 nm and RT, for integral dose >100 Gy	m ⁻¹	<1.0	<1.5	≤1.6	≤1.1	Test
Mean value of dk	m ⁻¹	≤0.75	≤1.0	≤1.5	≤0.75	Test
Tolerance in Length	μm	≤±100	≤±150	+0., -100	±50	Measure.
Tolerance in sides	μm	≤±50	≤±100	≤±50	±50	
Surface polished, roughness Ra	μm	≤0.02	≤0.05	≤0.02		Company
Tolerance in Rectangularity (90°)	degree	≤0.1	≤0.2	≤0.12	<0.01	Measure.
Purity specific. (raw material)				5N-6N		Company
Mo contamination	ppm	<10		<10	<1	Company
La, Y, Nb, Lu contamination	ppm	?		≤100	≤40	Company

