

YT-2440 — High-OH Synthetic Quartz Tube for UV Electric Light Sources



LUMIGLAS® YT-2440
High-OH Grade UV Electric Light Source Envelope

Applications:

The YT-2440 is a high-OH synthetic quartz tube engineered for UV electric light source envelopes where a longer UV cut-off wavelength — and correspondingly higher UV transmittance in the 200–400 nm range — is required. With OH hydroxyl content of 400–1000 ppm and ppb-level metallic impurities, it delivers high UV transmittance, low UV absorption and proven resistance to UV-induced solarisation for the most demanding UV lamp service life requirements.

- UV curing lamp envelopes for printing, coating and adhesive bonding (320–400 nm)
- High-pressure mercury UV lamp outer sleeves and arc tubes
- Xenon UV flash lamp envelopes for photography and industrial strobe systems
- UV phototherapy lamp envelopes for dermatology and medical treatment
- UV ageing and weathering test lamp envelopes (UV-A, UV-B)
- Halogen UV light source envelopes for analytical instruments and projectors

Key Advantages:

- High UV transmittance and low UV absorption — excellent transmission in the 200–400 nm band
- Long UV service life — high UV radiation resistance; stable output over lamp rated life
- ppb-level metallic impurity content — minimises UV-induced solarisation and browning
- High-OH grade (400–1000 ppm) — optimal cut-off for longer-wavelength UV lamp designs
- Bubble-free, high geometric precision across full OD range Φ1–90 mm

Material & Optical Properties		Dimensional Range & Ordering	
Material	Synthetic fused silica, SiO ₂ ≥99.9999%	OD Range	Φ1 – 90 mm
OH Content	400–1000 ppm (high-OH grade)	WT Range	≤30 mm
UV Cut-off	~185 nm (longer cut-off than YT-2430)	Max. Length	2000 mm
UV Transmittance	High from 185 nm; excellent at 200–400 nm	Metallic Imp.	ppb-level (see impurity table)
UV Radiation Resistance	High — low solarisation; long UV service life	Bubble Standard	Bubble-free to naked eye
Max. Service Temp.	~1200°C continuous	Ordering Spec	OD × WT × Length (mm)
Certificate	Full impurity analysis CoC, standard	Custom	OD, WT, length & OH on request

Product Characteristics — YT-2440

Product	Model	Typical Dimensions (mm)	Application	Key Features
High-OH Synthetic Quartz Tube	YT-2440	OD: Φ1–90 WT: ≤30 Max. Length: 2000	UV Electric Light Source Envelope	High UV transmittance & low absorption · long UV service life · ppb impurities · OH 400–1000 ppm · bubble-free · high geometric precision

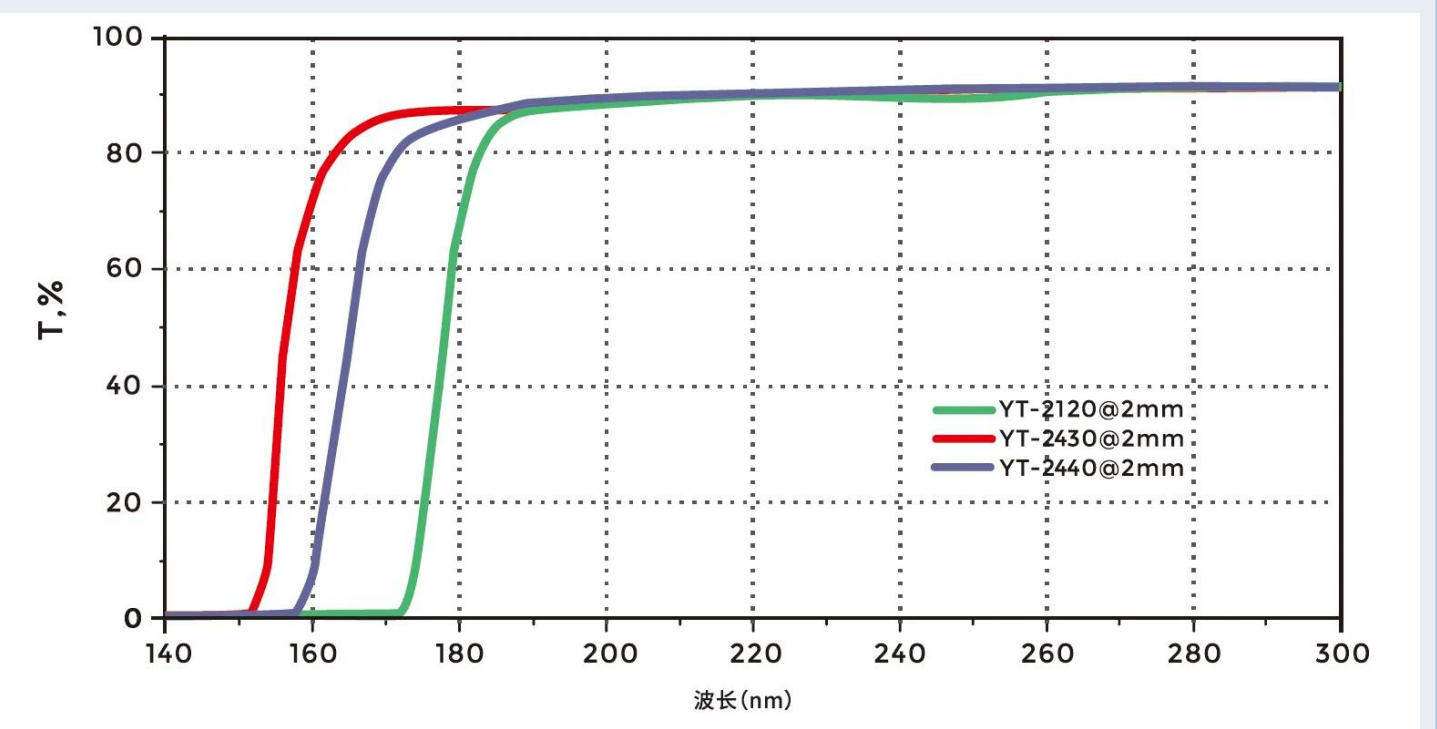
Major Metallic Impurity Content & Hydroxyl (ppm, wt)

Grade (ppm,wt)	Li	Na	K	Mg	Ca	Cu	Al	Cr	Fe	Ti	OH (ppm)
YT-2440	<0.01	<0.01	<0.002	<0.001	<0.01	<0.001	<0.002	<0.001	<0.002	<0.005	400–1000

The high OH content (400–1000 ppm) of the YT-2440 produces a UV cut-off at approximately 185 nm — optimised for UV curing, UV phototherapy and other longer-wavelength UV lamp applications where this cut-off position matches the lamp's operating wavelength range. For deep-UV germicidal applications requiring a shorter cut-off, specify the YT-2430 (~200 ppm) instead.

YT-2430 vs YT-2440 — Selecting the Correct OH Grade for Your UV Lamp

Parameter	YT-2430 (Low-OH)	YT-2440 (High-OH)
OH Content	~ 200 ppm	400–1000 ppm
UV Cut-off Wavelength	~ 175 nm (shorter)	~ 185 nm (longer)
Deep-UV Transmittance (160–180 nm)	Higher	Lower
UV Transmittance (200–400 nm)	High	High
Typical Lamp Types	UVC germicidal, excimer UV	UV curing, xenon, halogen, phototherapy
Operating Wavelength	172–280 nm	280–400 nm
OD Range	Φ1–90 mm	Φ1–90 mm
Max. Length	2000 mm	2000 mm



Transmittance (T, %) vs. Wavelength (nm) — 2 mm wall thickness
Curves: YT-2120 (green) · YT-2430 (red) · YT-2440 (blue, longest cut-off)

Chart notes: Transmittance curves at 2 mm wall thickness. YT-2440 (blue) shows the longest UV cut-off (~185 nm) among the three grades — optimised for UV curing and phototherapy lamp applications. YT-2430 (red) and YT-2120 (green) show progressively shorter cut-offs for shorter-wavelength UV applications.

Request a Quote — LUMIGLAS® YT-2440 High-OH Quartz Tube

Specify: OD × WT × Length (mm) · OH 400–1000 ppm · Custom dimensions on request
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