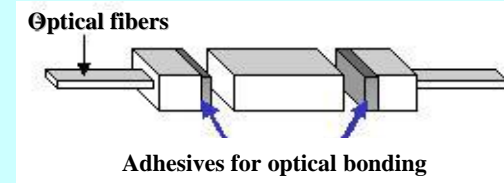


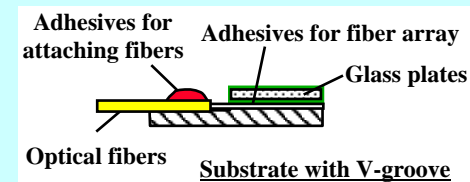
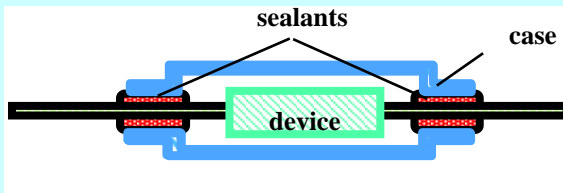
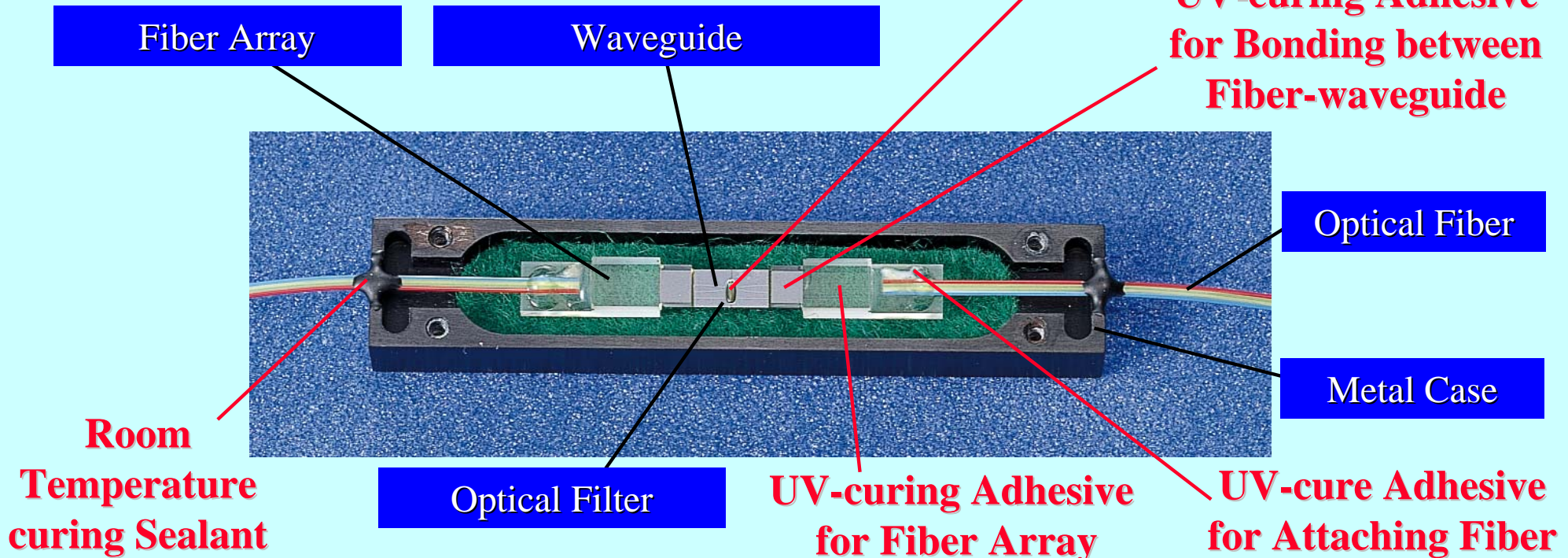
**Welcome to NTT-AT's
Booth**

Adhesives for Fabricating Optical Devices

UV-curing Adhesive for Attaching Filter

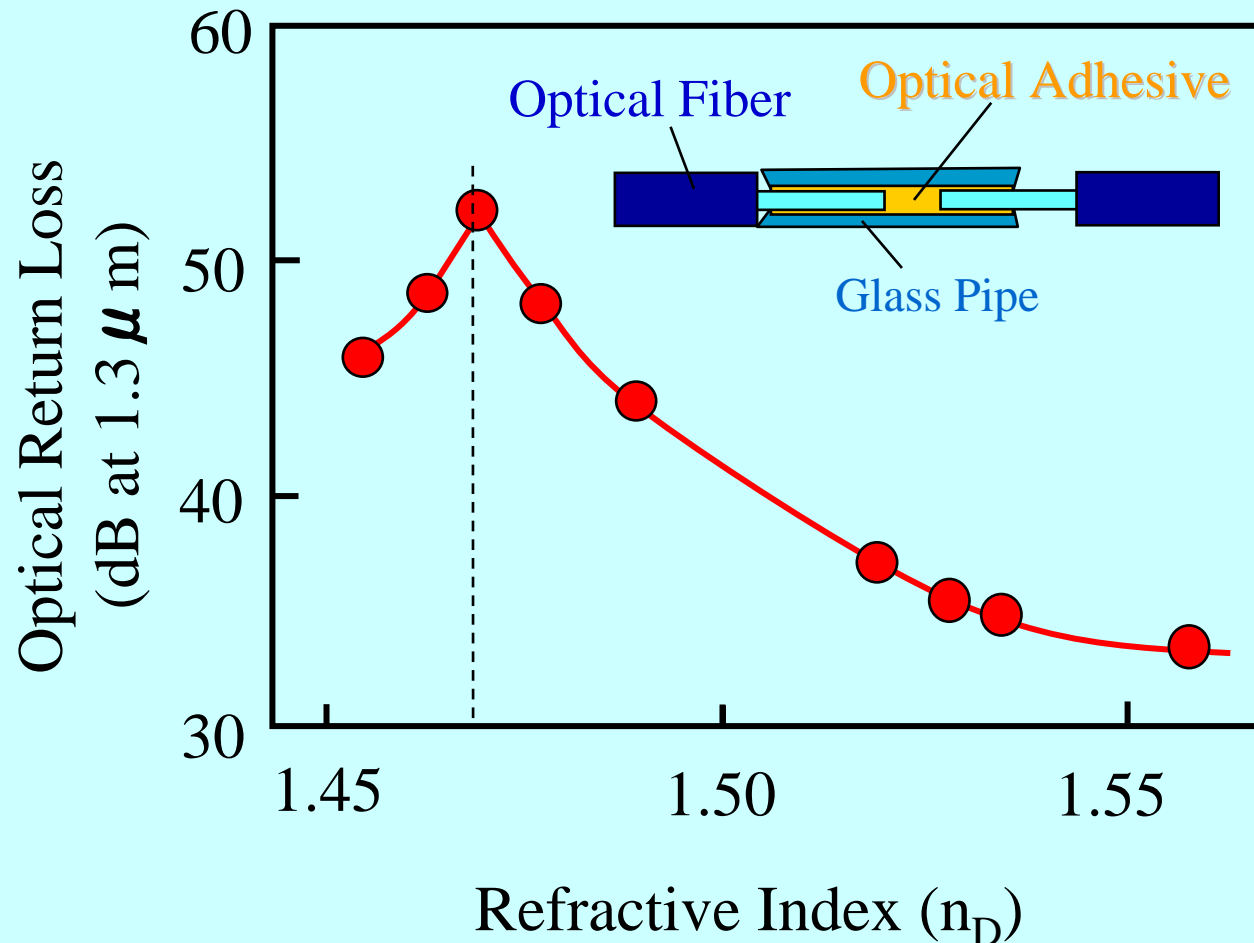


UV-curing Adhesive for Bonding between Fiber-waveguide



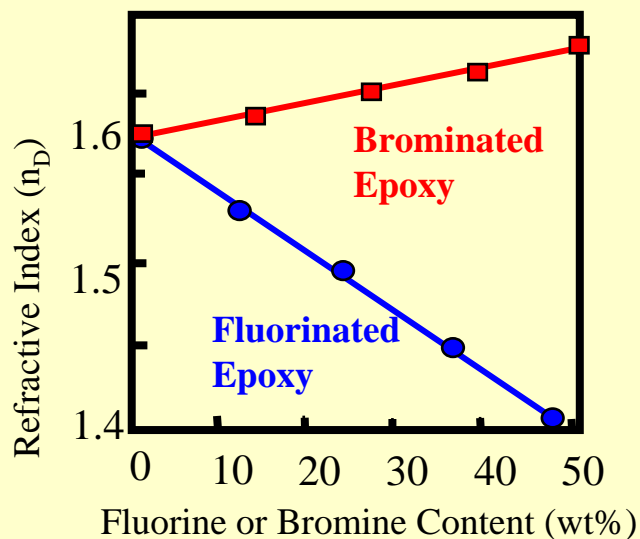
Adhesives for Optical Bonding

Optical Return Loss and Refractive Index of Adhesives at Optical Fiber Splicing

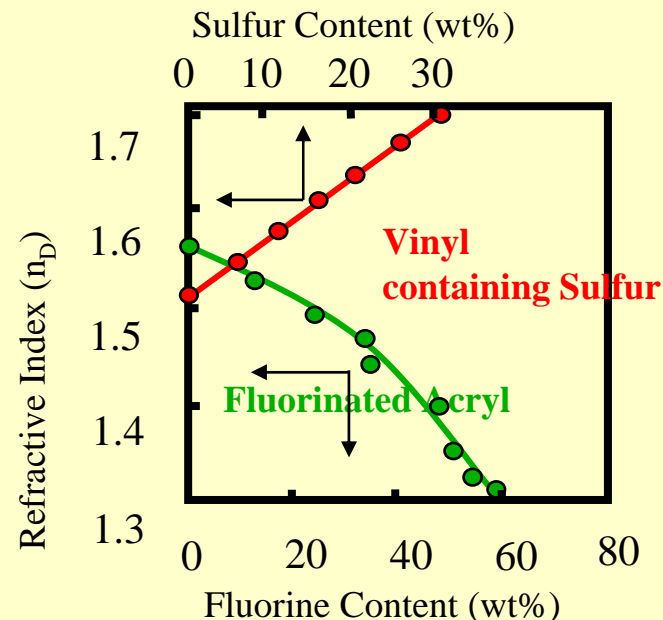


Refractive Index Control of UV-curable Resin Systems

Cationic System

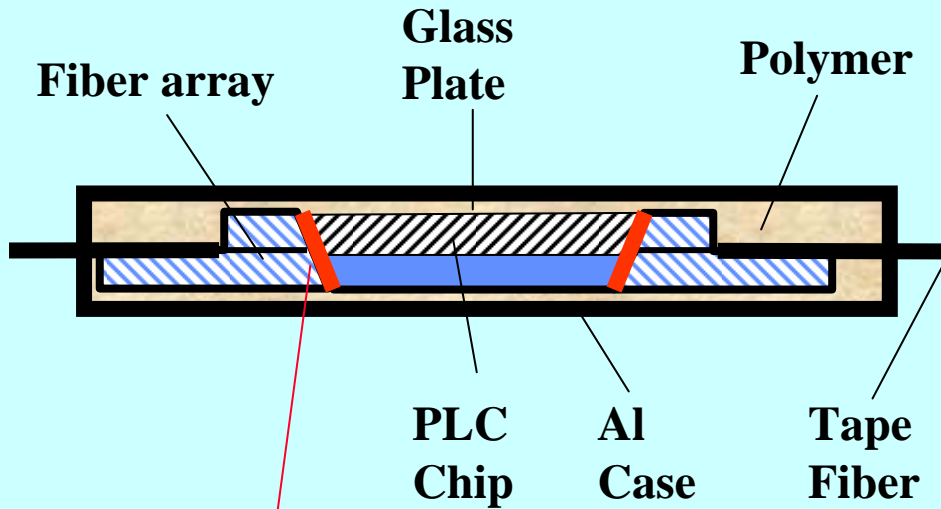


Radical System

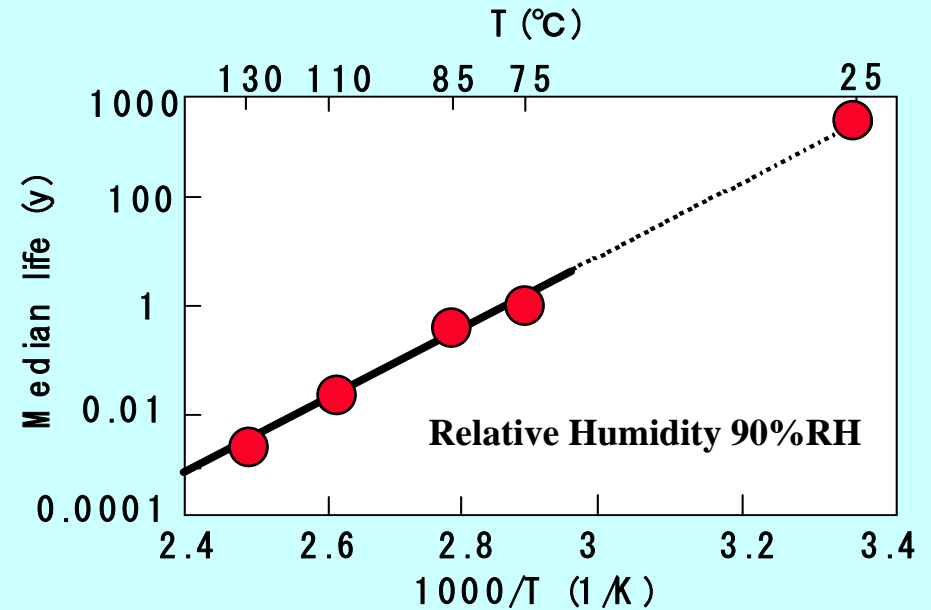


The range of refractive index control
 $n_D = 1.3-1.7$

Application to Highly Reliable PLC Devices



Highly Durable UV-curing Optical Adhesive (AT6001 Adhesive system)

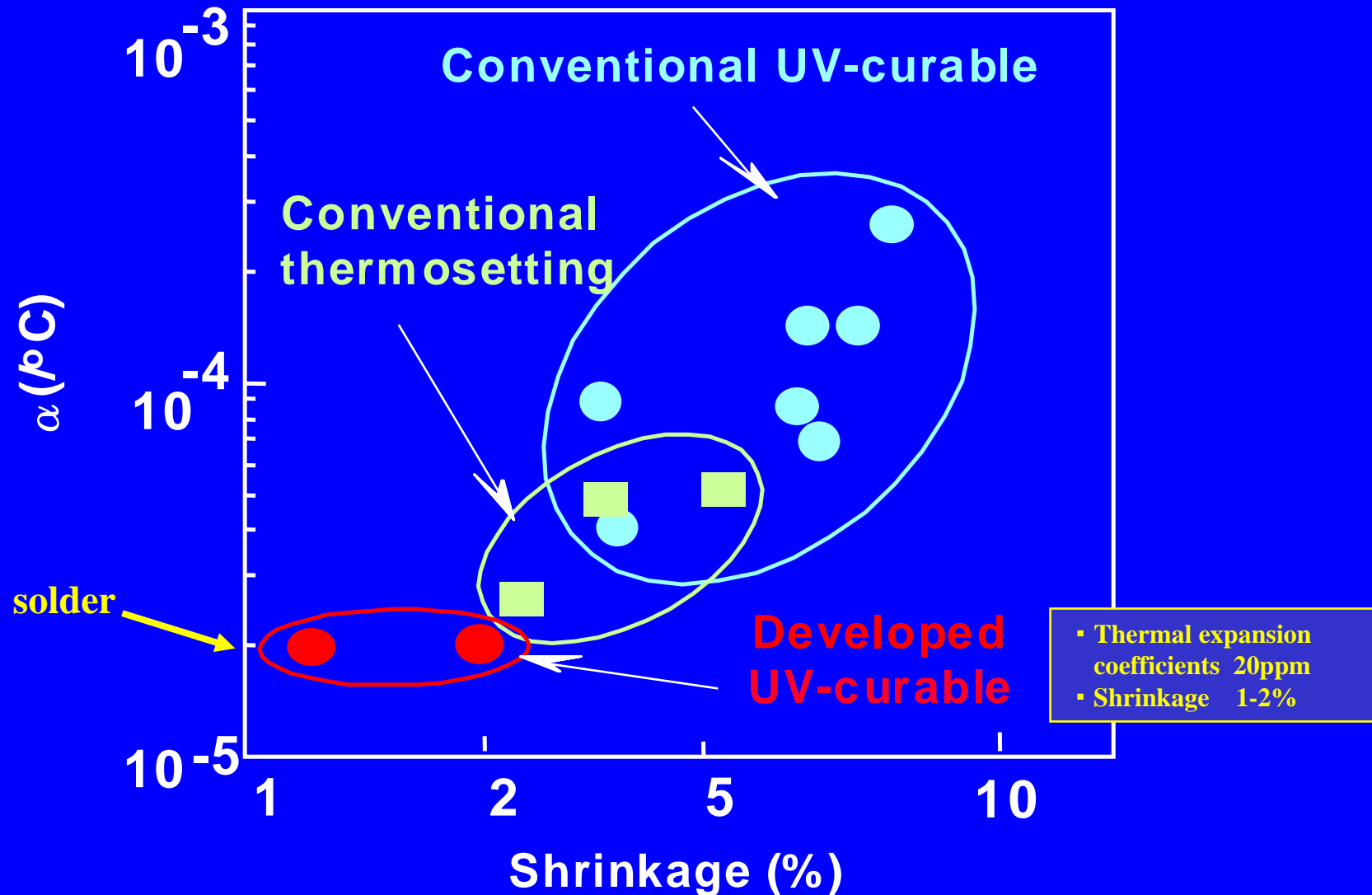


Failure Rate at 25°C 90%RH = 0.6 FIT

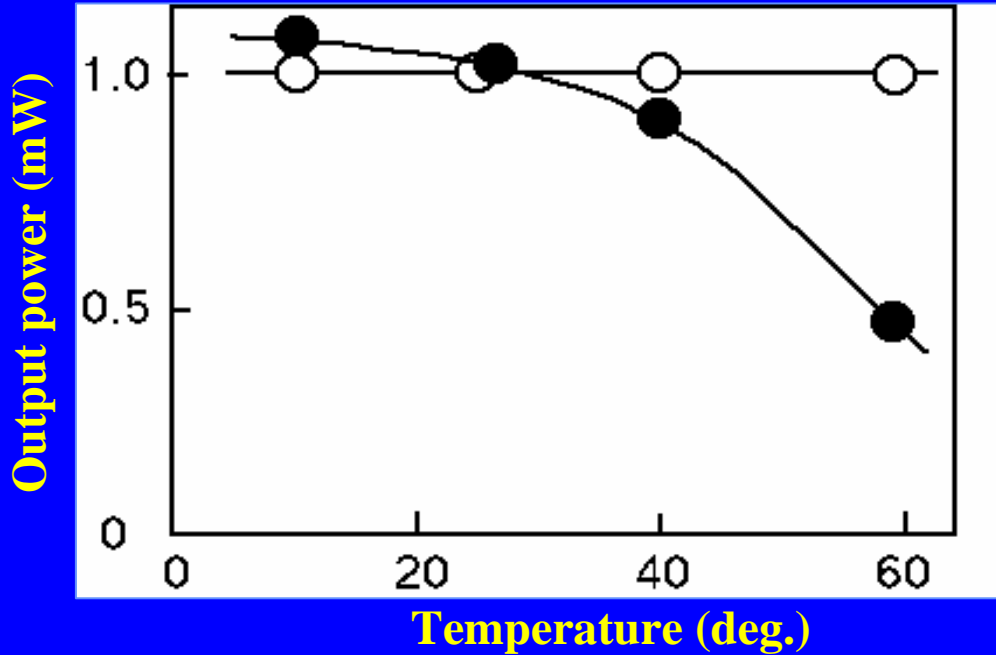
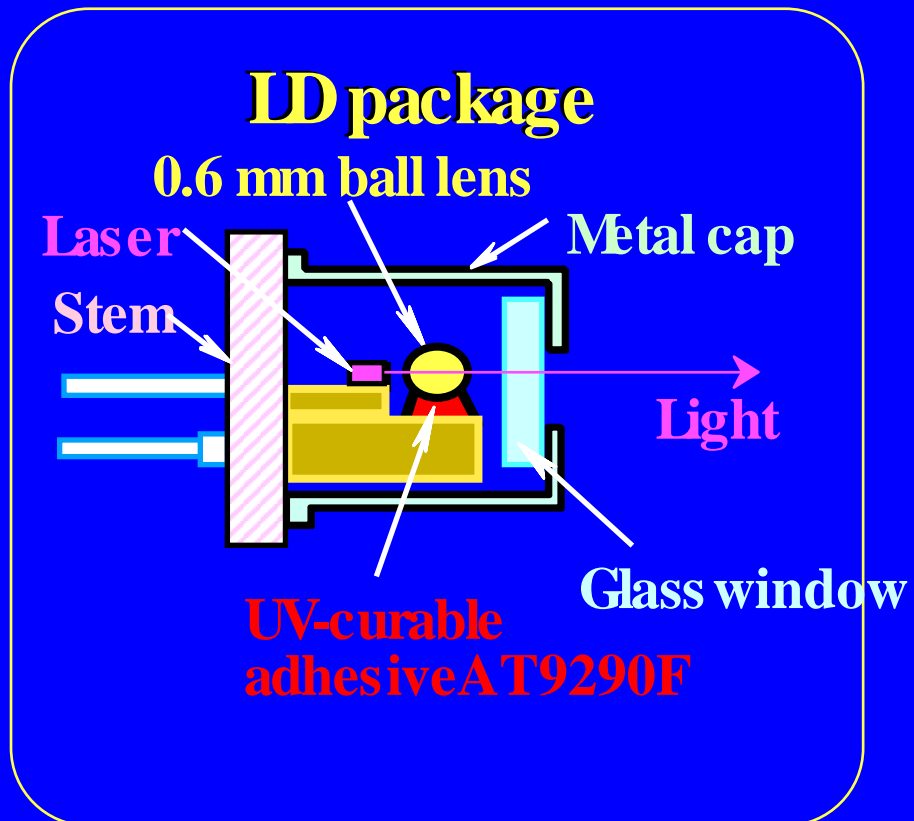
(1 FIT = Failure Number 1/10,000 for 10 years)

Adhesives for Precision Attaching

Thermal expansion coefficient and shrinkage during curing

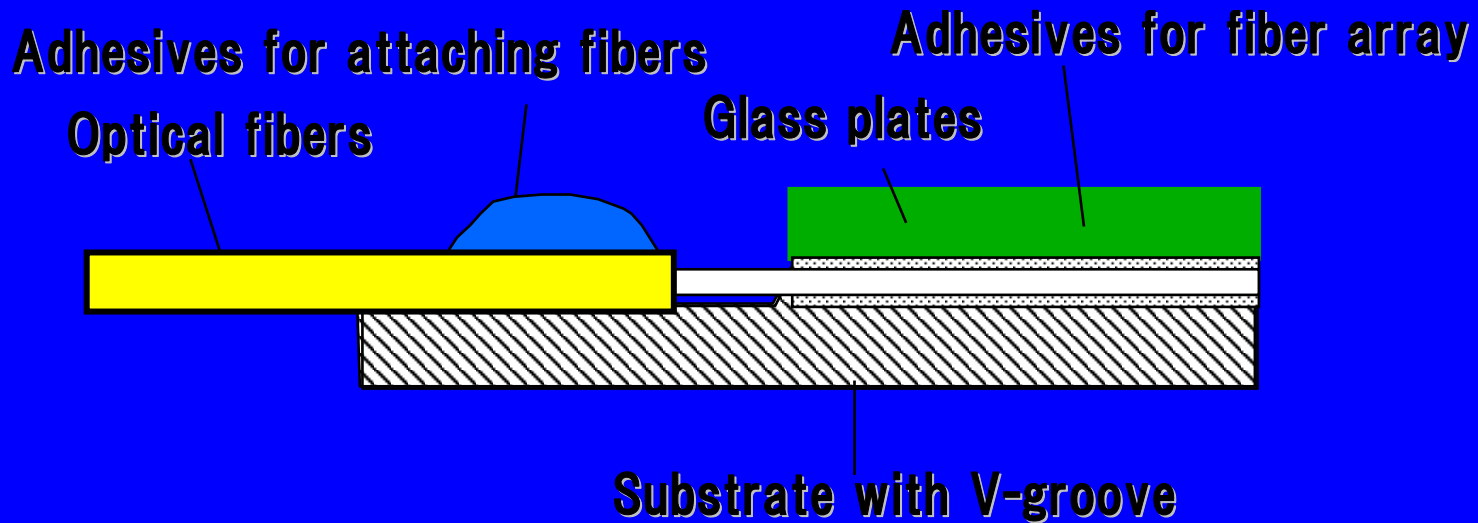


Application of Adhesives for Precision Attaching



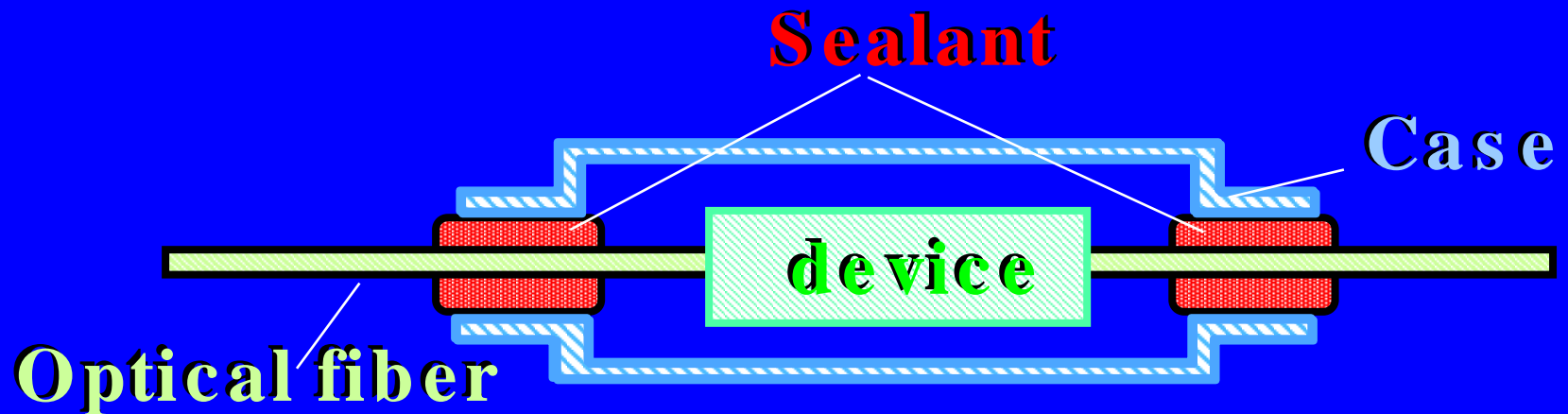
○ Precision Adhesives ($\alpha = 4 \times 10^{-5}$ /deg)
● Commercially available one ($\alpha = 30 \times 10^{-5}$ /deg)
 α : thermal expansion coefficients

UV-curing Adhesives for Fabricating Fiber Array



AT9390	For fiber array	<ul style="list-style-type: none"> ▪ Available for mechanical polishing ▪ Good durability
AT8105	For attaching fiber	<ul style="list-style-type: none"> ▪ Good durability ▪ Thixotropic and flexible

Sealants for Optical devices

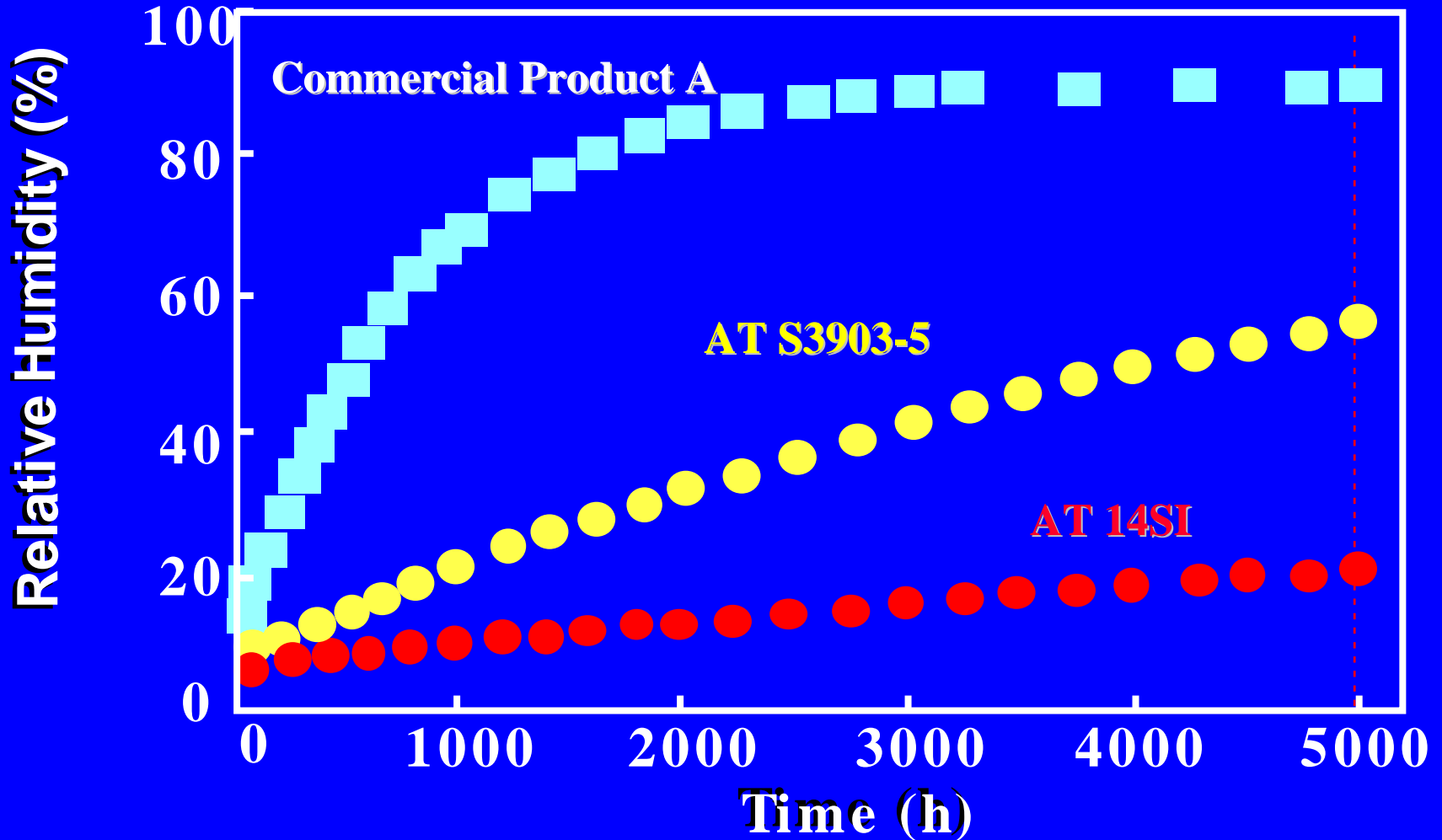


Points for sealant design

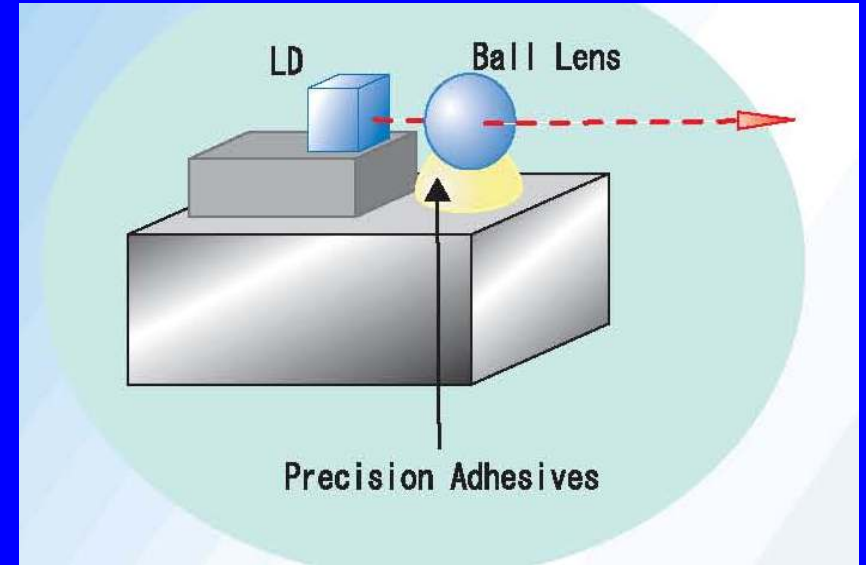
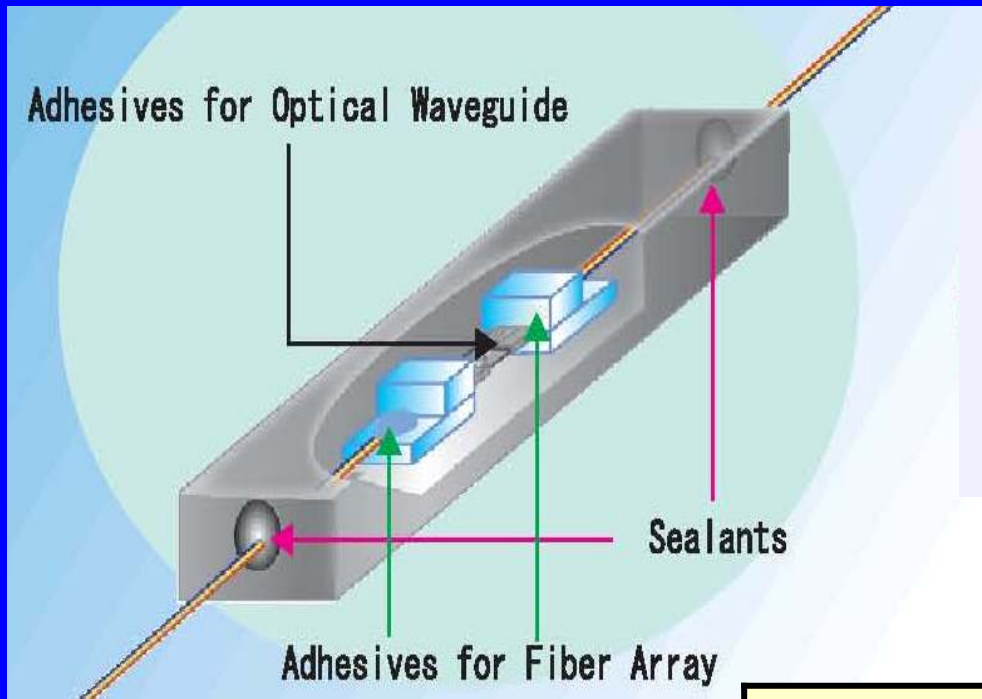
- Low internal stress
- Moisture resistance
 - high adhesive strength 200 kgf/cm²
 - low moisture permeability 8×10^{-9} cc·cm·cmHg/cm²/sec

Calculated relative humidity change in package

75°C, 90%RH



NTT-AT's Standard Adhesive Products



Classification	Model No.
Adhesives for Optical Bonding	AT6001 AT8224
Precision Adhesives	AT9290F AT4291A
UV-curing Adhesives for Fabricating Fiber Array	AT9390, AT9968 AT8105
Sealants for Optical devices	14SI S3903-5



Integrated Value Provider

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