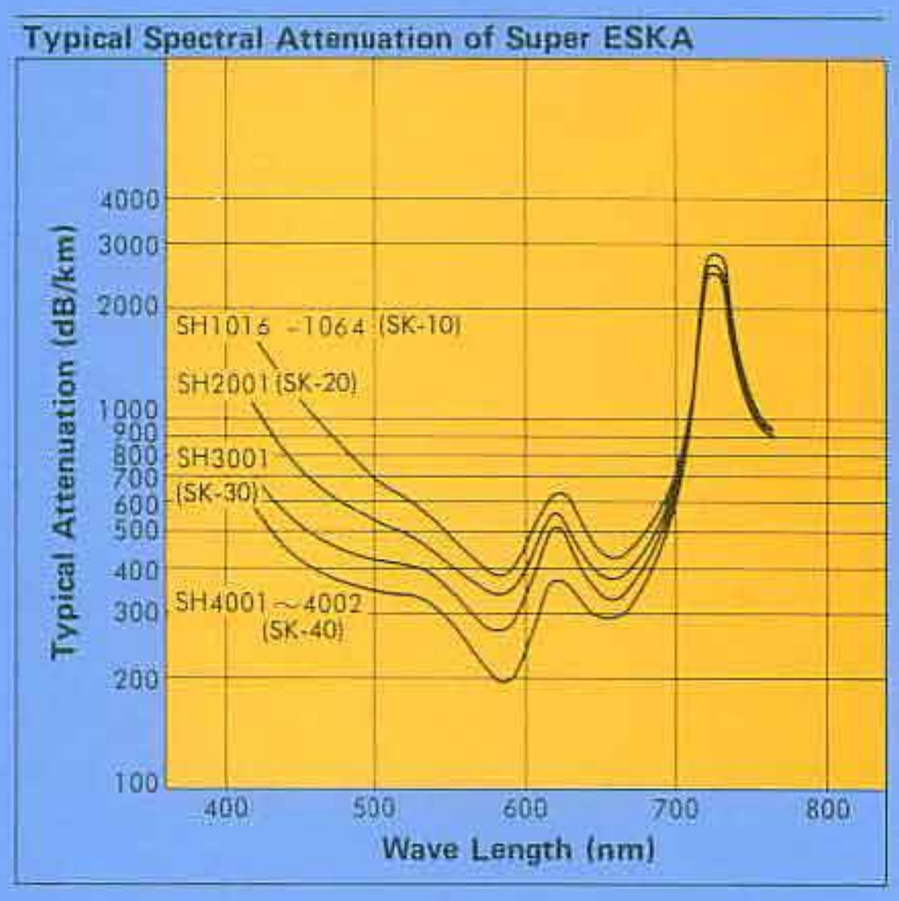
Optical Properties of **EP200**

1. Numerical Aperture/Acceptance Angle

Core refractive index: 1.495 (n1)
Clad refractive index: 1.402 (n2)
Numerical aperture: 0.50 ($\sqrt{n_1^2 - n_2^2}$)
Acceptance angle: 60° ($2 \sin^{-1}$ (N.A.)

2. Spectral Transmission



Super ESKA is designed to provide higher transmission in the visible region of spectrum.
In practice, it is necessary to determine the effective transmission rate for a specific wave length and fiber length based on the attenuation and net transmission given in Fig. 2 and 3 with about 10% loss of light per fiber end added, and then to verify it through testing.

Fig. 2 Attenuation by Wave Length

3. Transmission vs Fiber Length

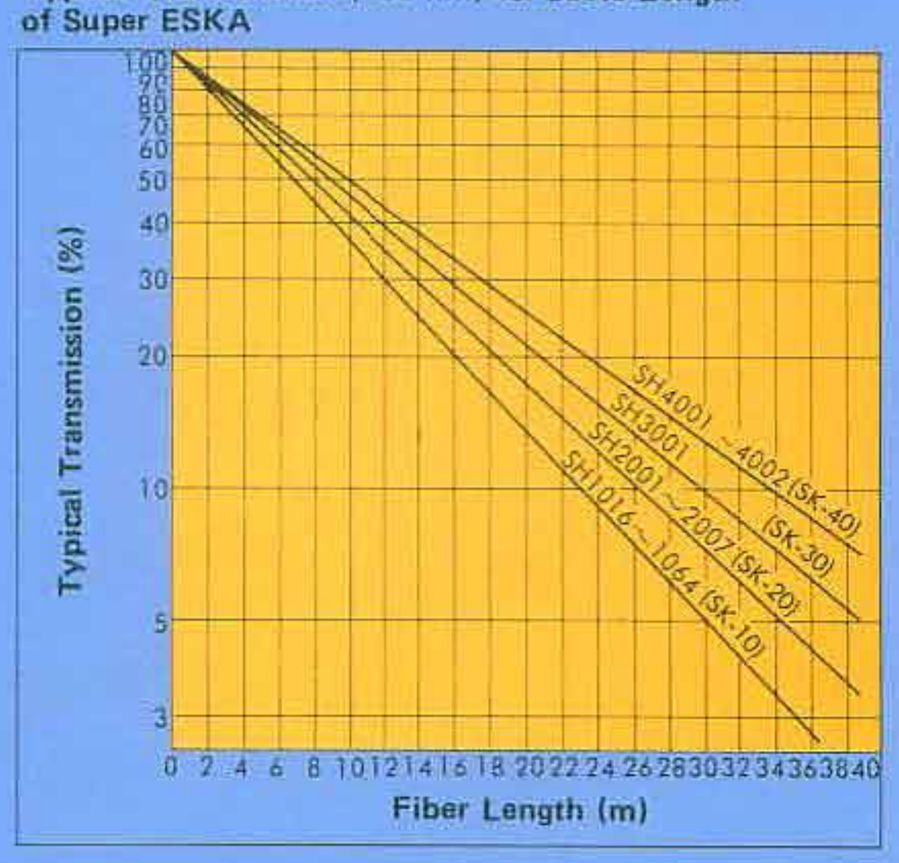


Fig. 3 Light Transmission Relative to Fiber Length (Parallel Light of .660 Micron Wave Length)

Physical Properties of

1. Breaking Stress and Strain

While Super ESKA is rather tough and resistant to damage, it is not designed to bear load. Care should be taken as an excessive load put on the fiber may change its optical properties if the fiber is not broken.

Type	Fiber Dia	Breaking Stress		Young's Modulus	Breaking Strain
		kg/fiber	kg/cm^2	10^4 kg/cm^2	%
SK-10	0.25 mm	0.5- 0.7	1,020-1,430	3.8-4.0	60- 80
SK-20	0.50 mm	1.5- 2.0	760-1,020	3.0-3.6	60- 90
SK-30	0.75 mm	4 - 5	900-1,130	2.7-2.9	70-100
SK-40	1.0 mm	7 - 9	890-1,150	2.6-2.8	70-100
SH-4001	1.0 mm + PE	11 -13	-	-	80-100

Tensile Stress vs. Elongation of Single Core Cord
ESKA Cable (Fibers: SK40)

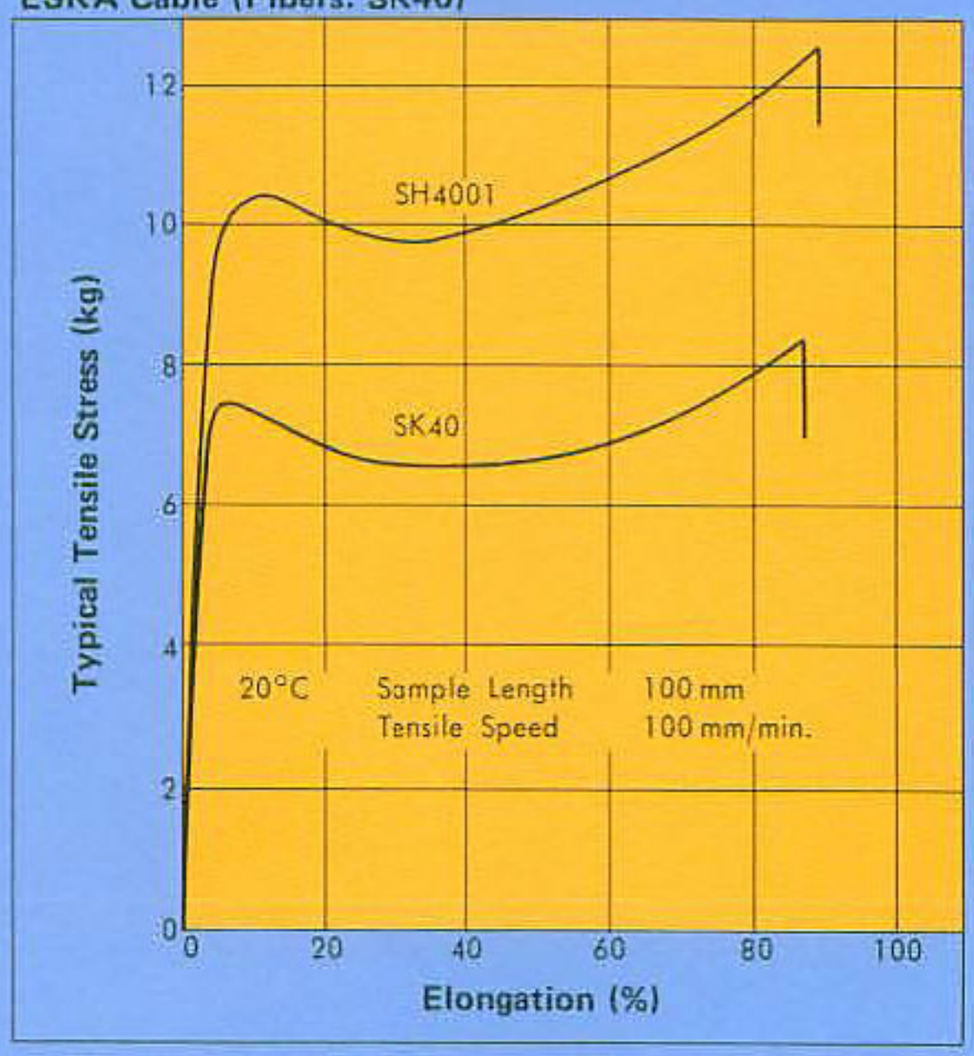


Fig. 4 Stress-Strain Curve

2. Service Temperature

Super ESKA bulk fibers and optical cables can be used in the continuous service temperature range of −35°C to 80°C (−31°F to 176°F), while they sufficiently withstand short-time exposures up to around 100°C (212°F).