SISTEM KOMUNIKASI OPTIK

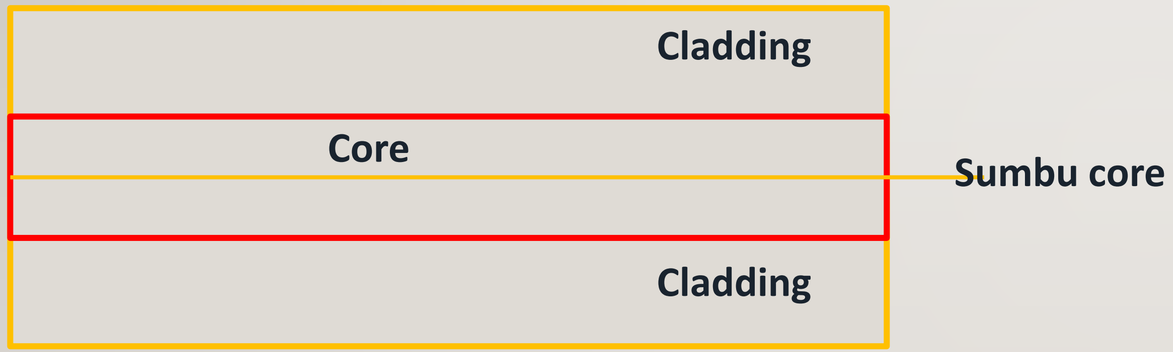
- **BAB 4**
- **LOSS BENDING PADA SERAT OPTIK**

- **D3 Teknologi Telekomunikasi – Fakultas Ilmu Terapan**

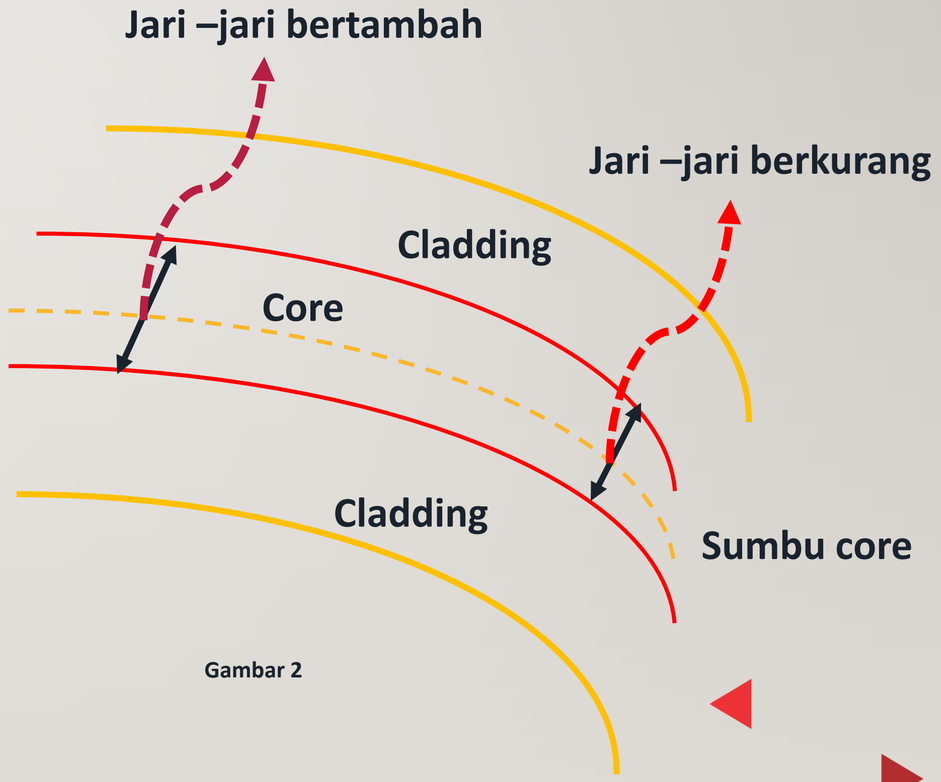
BENDING

- Loss Bending Pada Serat Optik
- Gelombang Evanescent Pada Serat Optik

LOSS BENDING PADA SERAT OPTIK



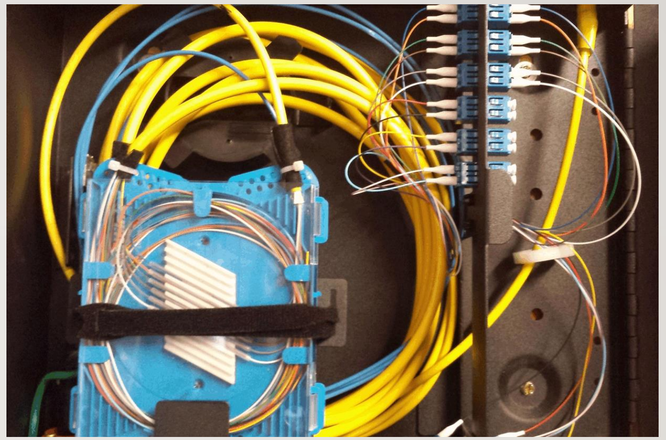
Gambar 1



Gambar 2

Sumber Referensi : Gerd,Keiser,2010, *Optical Fiber Communications*, 4th edition,McGraw Hill, International Edition

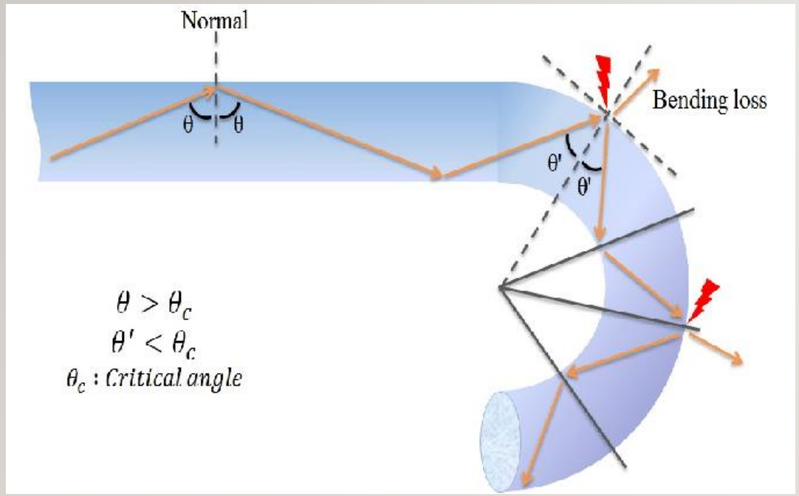
4



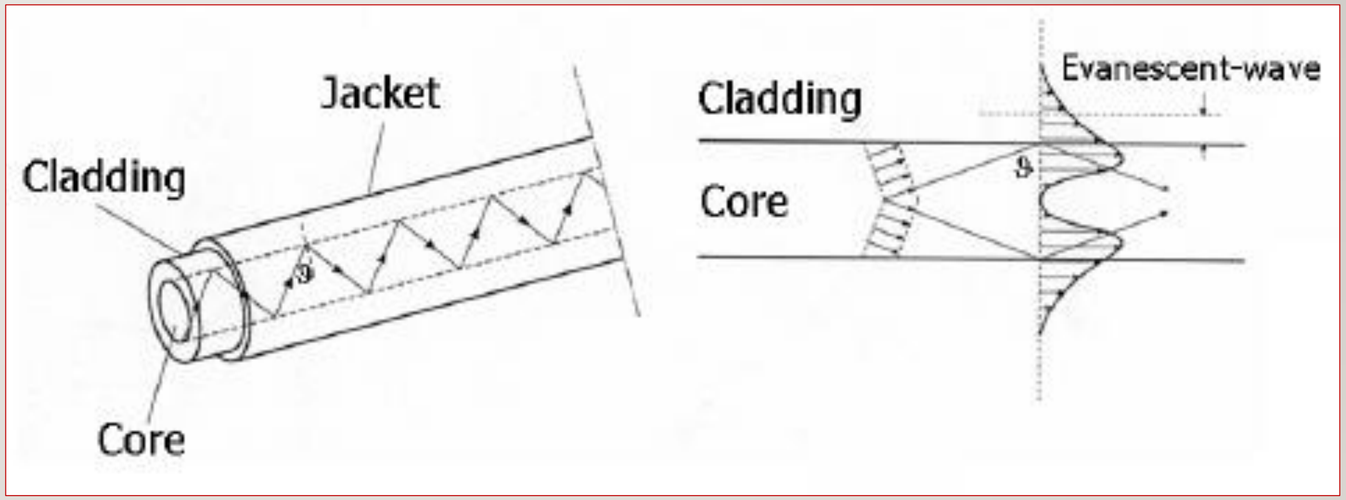
Gambar 3

Sumber Referensi : https://dev.kacecommunications.com/structured-cabling/fiber-optic-installation/
https://usl-universal.com/wp-content/uploads/2015/07/fiber.gif
https://www.dreamstime.com/patch-cords-cable-splicing-fibers-spice-tray-patch-cords-cable-splicing-fibers-spice-tray-optical-image109660102

GELOMBANG EVANESCENT DALAM SERAT OPTIK



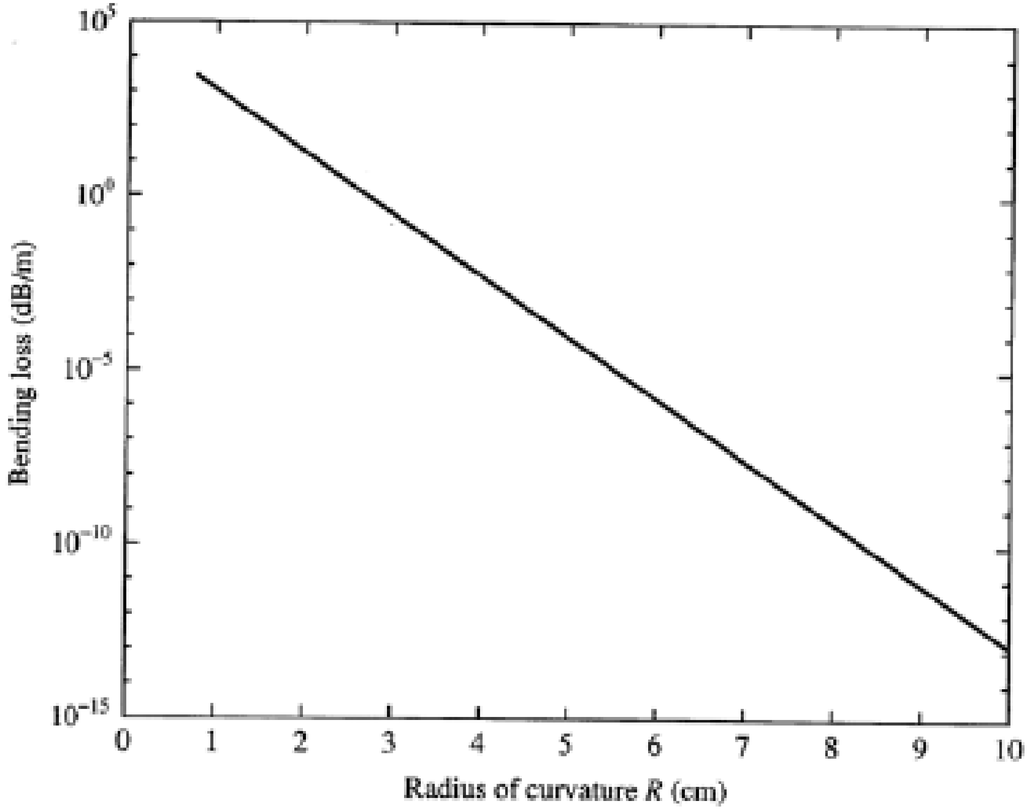
Gambar 4



Gambar 5

Sumber Referensi : Gerd,Keiser,2010, *Optical Fiber Communications*, 4th edition,McGraw Hill, International Edition
https://www.researchgate.net/figure/Schematic-diagram-of-the-bending-loss-in-a-bent-optical-fiber_fig1_263649697

6

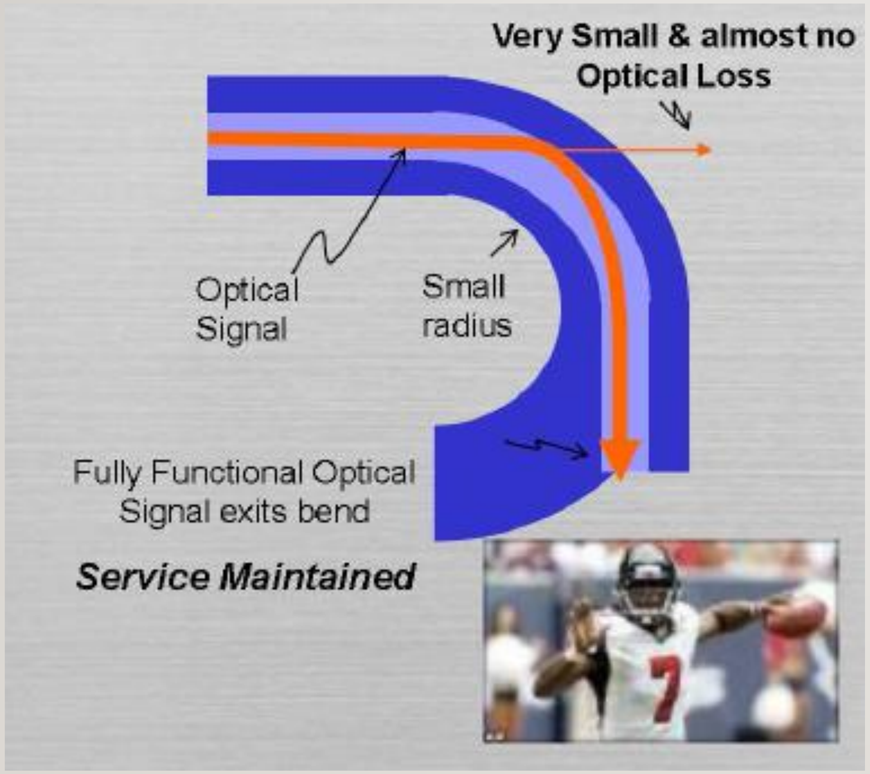


From *Photonics*,
Yariv and Yeh, 4th Edition

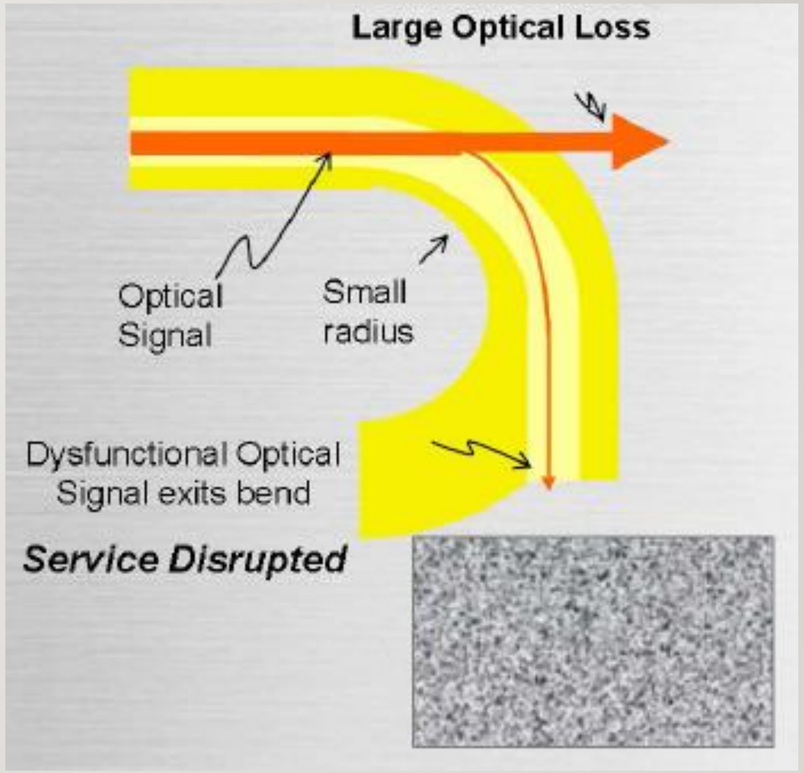
Figure 3.24 Attenuation coefficient due to bending as a function of the radius of curvature of bending, calculated using Equation (3.6-7). The fiber parameters used are: core index $n_1 = 1.4628$, clad index $n_2 = 1.4600$, core radius $a = 5.49\ \mu m$, $\lambda = 1.30\ \mu m$. These parameters lead to $V = 2.400$, $n_{eff} = 1.4614$, $ha = 1.6978$, $qa = 1.6969$, and $\beta a = 38.777$.

Gambar 6

Sumber Referensi : Gerd,Keiser,2010, *Optical Fiber Communications*, 4th edition,McGraw Hill, International Edition
httpshttp://opti500.cian-erc.org/opti500/pdf/Lecture%2024%20Bend%20Loss,%20Nonlinear%20Effects.pdf



Gambar 7. Fiber Optics SM G. 657-B3



Gambar 8. Fiber Optics SM G. 652-D

Sumber Referensi : Gerd,Keiser,2010, *Optical Fiber Communications*, 4th edition,McGraw Hill, International Edition
httpshttp://opti500.cian-erc.org/opti500/pdf/Lecture%2024%20Bend%20Loss,%20Nonlinear%20Effects.pdf

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