

for the VLSI Era
Volume 1 – Process Technology

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SILICON PROCESSING FOR THE VLSI ERA

**VOLUME 1:
PROCESS TECHNOLOGY**

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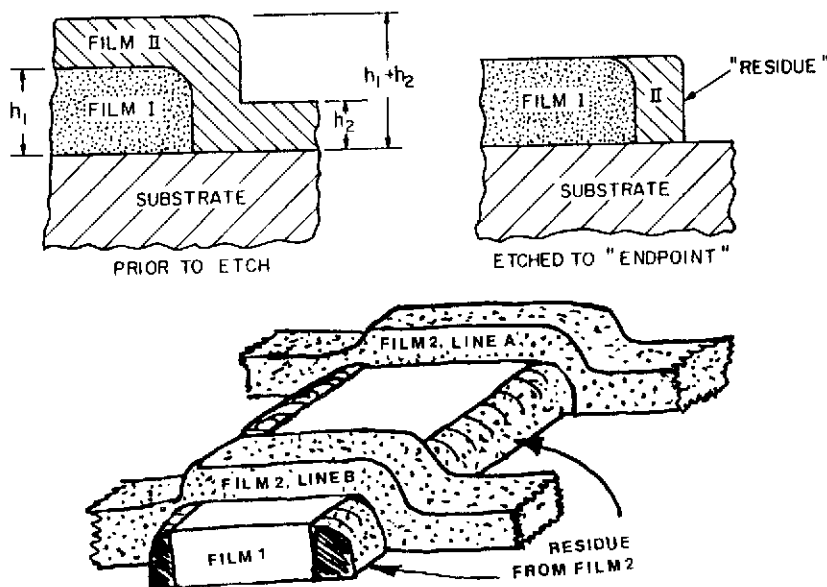


Fig. 9 If etching is anisotropic, overetching is needed to remove residual materials at steps. The degree of anisotropy, $A = 1$ in the example shown. Copyright, 1983, Bell Telephone Laboratories, Incorporated, reprinted by permission.

etch process will be used to etch the polysilicon, and that the polysilicon film thickness uniformity is 5%, and the uniformity of etching is 10%. Find the required S_{fs} for this process, if the etching is to be stopped immediately after the polysilicon is completely etched.

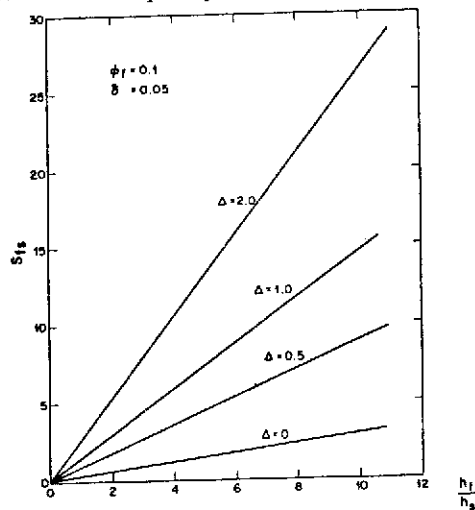


Fig. 10 The selectivity needed with respect to substrate, S_{fs} , is plotted as a function of the ratio of film thickness to the amount of substrate removed for various amounts of overetching. Copyright, 1983, Bell Telephone Laboratories, Incorporated, reprinted by permission.