

PART VIII Appendix I PSA and Liveliness

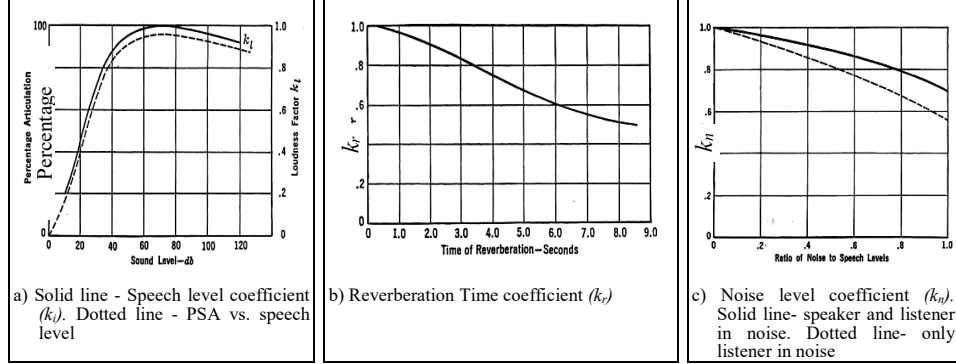


Figure 8.1.1 Coefficients for Percentage Syllable Articulation (PSA)
(Source: Knudsen, V. O. 1932. *Architectural Acoustics*, John Wiley & Sons Inc., New York)

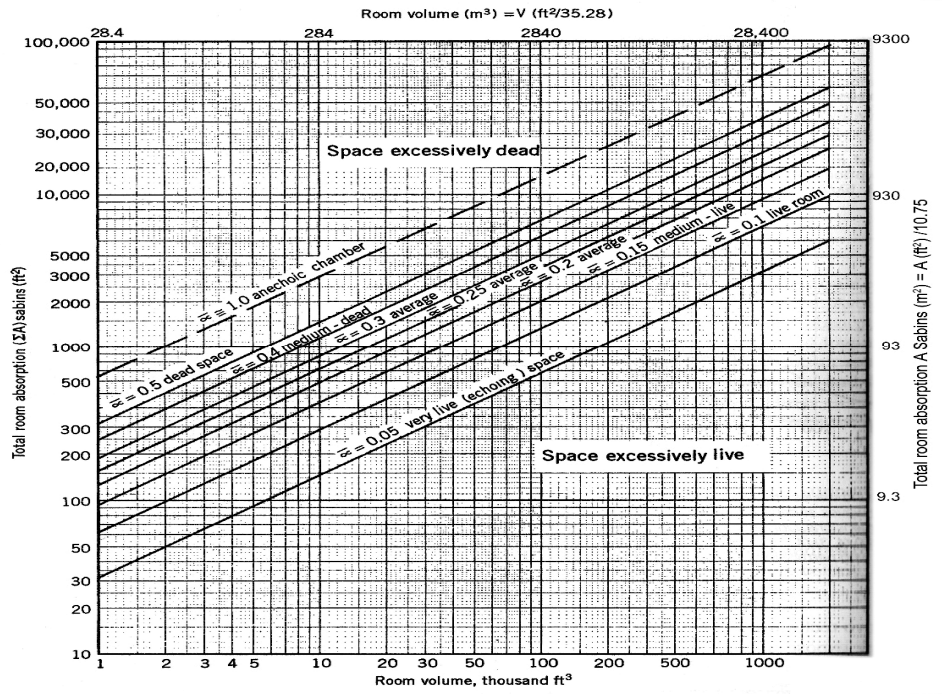


Figure 8.1.2 Liveliness of a Room as a Function of its Volume and Total Absorption

(Source: Stein, B. et al. 2006. *Mechanical and Electrical Equipment for Buildings*. John Wiley & Sons, New Jersey)

Note: The room proportions chosen as Length : Width : Height = $2H : 1.5H : H$; average of the three extreme points of the recommended room proportion triangle in Fig. 1.2. For these proportions, $S = 6.25 V^{2/3}$ and thus $A = S \alpha = 6.25 V^{2/3}$.

PART VIII

Appendix J

Speech Privacy Analysis Sheet

SPEECH PRIVACY: Analysis Sheet

Anticipated response to privacy situation

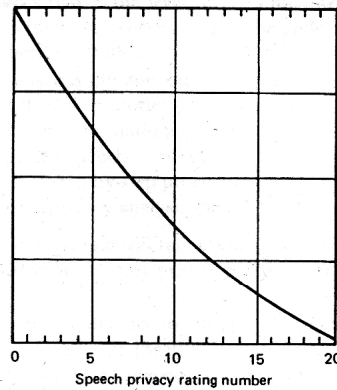
Apparent satisfaction

Mild dissatisfaction

Moderate dissatisfaction

Strong dissatisfaction

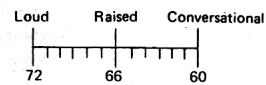
Serious dissatisfaction



NOTE: Curve shows average response of people to intruding speech based on rating number figured below.

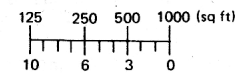
Speech rating

1. Speech effort — how people talk in source room

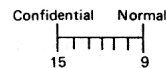


A. B. C.

2. Source room floor area (A_1) — approximates effect of source room absorption



3. Privacy allowance — degree of privacy desired

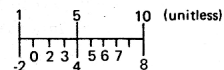


■ Speech rating total

Isolation rating

4. Sound transmission class (STC) — accounts for transmission loss of common barrier

5. Noise reduction factor (A_2/S) — approximates effect of receiving room sound absorption and common barrier size



6. Adjacent room background noise level (dBA) — masking sound available

■ Isolation rating total

Speech privacy rating number

Find speech privacy rating number by subtracting isolation rating total from speech rating total. Then use graph at top of sheet to predict degree of satisfaction.

Figure 8.J.1 Speech Privacy Analysis Sheet

(Source: Egan, M. D. 1972. *Concepts in Architectural Acoustics*, McGraw-Hill Book Company, New York)