

PART VIII
Appendix J
Speech Privacy Analysis Sheet

SPEECH PRIVACY: Analysis Sheet**Anticipated response to privacy situation**

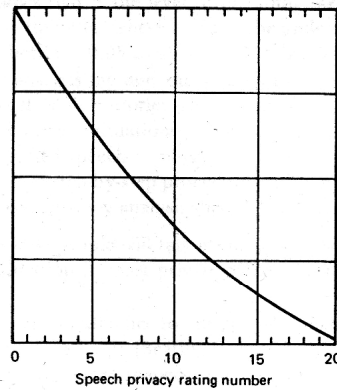
Apparent satisfaction

Mild dissatisfaction

Moderate dissatisfaction

Strong dissatisfaction

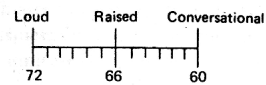
Serious dissatisfaction



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

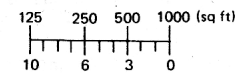
Speech rating

1. Speech effort — how people talk in source room

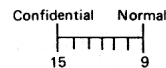


A. B. C.

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



3. Privacy allowance — degree of privacy desired

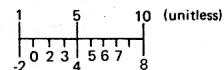


■ Speech rating total

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)

PART VIII
Appendix K
Sound Absorption Coefficients

Table 8.K.1: Sound Absorption Coefficients ^a

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

	Absorption Coefficients (α)						
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC ^c
General Building Materials and Furnishings ^b							
Brick, unglazed	0.03	0.03	0.03	0.04	0.05	0.07	0.005
Brick, unglazed, painted	0.01	0.01	0.02	0.02	0.02	0.03	0.00
Carpet, heavy, on concrete	0.02	0.06	0.14	0.37	0.60	0.65	0.29
Carpet, heavy, on 1.36 kg/m ² hair felt or foam rubber	0.08	0.24	0.57	0.69	0.71	0.73	0.55
Concrete block, coarse	0.36	0.44	0.31	0.29	0.39	0.25	0.35
Concrete block, painted	0.10	0.05	0.06	0.07	0.09	0.08	0.05
Fabrics							
Light velour, 0.34 kg/m ² , hung straight, in contact with wall	0.03	0.04	0.015	0.17	0.24	0.35	0.15
Medium velour, 0.47 kg/m ² , draped to half area	0.07	0.31	0.49	0.75	0.70	0.60	0.55
Heavy velour, 0.61 kg/m ² , draped to half area	0.14	0.35	0.55	0.72	0.70	0.65	0.60
Floors							
Concrete or terrazzo	0.01	0.01	0.015	0.02	0.02	0.02	0.00
Linoleum, asphalt, rubber, or cork tile on concrete	0.02	0.03	0.03	0.03	0.03	0.02	0.05
Wood	0.15	0.11	0.10	0.07	0.06	0.07	0.10
Glass							
Large panes of heavy plate glass	0.18	0.06	0.04	0.03	0.02	0.02	0.05
Ordinary window glass	0.35	0.25	0.18	0.12	0.07	0.04	0.15
Gypsum board, 13 mm nailed to 50x100 mm stud 400 mm c/c	0.10	0.08	0.05	0.03	0.03	0.03	0.05
Marble or glazed tile	0.01	0.01	0.01	0.01	0.02	0.02	0.00
Openings							
Stage, depending on furnishings				0.25-0.75			
Deep balcony, upholstered seats				0.50-1.00			
Grillese ventilating				0.15-0.50			