## STANFORD UNIVERSITY BING CONCERT HALL

STANFORD, U.S.A 2013

Acoustic Consultant:	Nagata Acoustics
	Robert F. Mahoney and Associates
Architect:	Ennead Architects
Owner:	Stanford University
Construction Cost:	\$ 111.9 million (U.S.)

The acoustical design of Bing Concert Hall was achieved in close collaboration with Stanford University and Ennead Architects.

The 842-seat concert hall was designed in an arena style to engender exceptional acoustical and visual intimacy between performers and the audience. The natural acoustics of the hall is in a large part determined by its interior geometry. In a collaborative effort with the University and Ennead Architects, the hall's geometry was shaped with the aid of computer simulation and validated using acoustical scale model testing. Interior materials of the hall were selected carefully to optimize sound characteristics. In order to accommodate diverse types of performances, a variable acoustic system was introduced in the perimeter of the auditorium as well as the stage area of the concert hall.

## **BUILDING DETAILS AND ACOUSTIC DATA**

Location	Stanford University, Stanford, California, U.S.A.	
Building Size	10439.1 m <sup>2</sup>	P
Concert Hall:		
Seating Capacity	842	
Room Volume	$17,000 \text{ m}^3$	
Reverberation Time (N	(id-Frequency)	
Unoccupied	2.6 sec	
Occupied	2.4 sec	
Finish Materials		
Ceiling : Ceme	nt+FRP+Sand-blast	
Walls : Ceme	nt+FRP+BASWAphon 407 Base,	
GFRC	C+Wood Rib	
Aud. Floor : Beech	and Concrete	
Stage Floor : Alask	an Yellow Cedar	
Noise Level: NC-15		DI AN
		<b>FLAN</b>
		r LAN
g 5.0		
5.0 4.0		
5.0 4.0 ss 3.0		
5.0 4.0 98 3.0 .11 2.0		
5.0 4.0 second 		
5.0 4.0 3.0 2.0 2.0		
5.0 4.0 3.0 2.0 2.0 1.0		
5.0 4.0 3.0 2.0 1.0	Unoccupied	
5.0 4.0   4.0 3.0   2.0 0.1   1.0 0.1	Unoccupied Occupied	
Beverberation 5.0 4.0 3.0 2.0 0.5 63 125 250		
5.0 4.0 3.0 2.0 2.0 1.0 63 125 250 1/1 Octav	Unoccupied Occupied 500 1,000 2,000 4,000 8,000 re Centre Frequency in Hz	
5.0 4.0 3.0 2.0 1.0 0.5 63 125 250 1/1 Octav REVERH	Unoccupied Unocupied U	TIAN

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## N A G A T A ACOUSTICS











