

Case Study:

IAC Acoustics Sound Barrier

CP Kelco
San Diego, California



IAC Acoustics FS/S Noishield® Sound Barrier Provides a Stepped Design for CP Kelco

The CP Kelco facility is located in the city of San Diego, California, just adjacent to and underneath the Coronado Bay Bridge. The property is adjacent to a facility owned by Continental Maritime of San Diego, Inc. The City of San Diego Municipal establishes regulation for intrusive noise as follows, "The outdoor noise level for manufacturing all other industrial including agricultural and extractive industry is not to exceed 75 dBA anytime of the day". Initial investigation determined that most of the adjacent Continental Maritime property had noise levels between 80 and 90 dBA, the source being CP Kelco.

The recommendation was to install an IAC Acoustics FS/S Noishield® barrier system 400' long and ranging 10' to 32' high. This barrier system was chosen for the project because the desired Insertion Loss Performance goal of below 75 dBA would be met, the absorptive performance data would ensure the noise levels realized on the equipment/operator side of the barrier would not increase, and because IAC Acoustics' barrier system could be fabricated to span 20' between structural supports to reduce the quantity of structural columns and installation cost.

Custom Configurations

IAC Acoustics fabricated and installed (263) FS/S Noishield® sound barrier panels measuring 24" x 18" H x 238" L x 5" thick in order to provide a stepped design for targeted noise reduction along the property line between the CP Kelco facility and Continental Maritime of San Diego. We also designed, fabricated and installed a liftable door measuring 20' W x 20' H in one of the 32' high wall sections.

Noise Level Reductions

The results after installation were that the A-weighted noise levels between 80 and 90 dBA were reduced to 69 to 73 dBA. The uniformity of the survey indicated that the stepped design, as well as the overall length and height of the barrier provided a fit-for-purpose solution for reducing the CP Kelco noise emissions with an appropriate safety margin of 2 dB. There were no indications that the new sound wall resulted in any undue increases in noise levels being reflected back to the manufacturing area. Thus, the noise exposure to the CP Kelco workers was consistent with what it was prior to the installation of the IAC Acoustics FS/S Noishield® sound barrier system.