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# Acoustic Container

## Generator Power Sets

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Acoustic Control  
by Mansfield Pollard

# PROJECT HIGHLIGHTS

## THE CHALLENGE

As an industry leading acoustic solutions provider, our experts were engaged to design, manufacture, and install four specialist acoustic containers, with integral exhaust system and attenuation, to reduce the noise level of Caterpillar® 3516B diesel generator sets located within a mixed residential and commercial area.

The gen-sets were designed to supply uninterrupted power to a large plant and our engineers were tasked to reduce noise levels to 75 dB(a) @7m from the container ventilation inlet and outlet.



## INDEPENDENT TESTING

We recognise the importance of independent product validation and have invested heavily through our R&D department in extensive testing with some of the leading acoustic centres in the country. All our products are continuously tested in the field to refine our acoustic modeling software



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University of  
Salford  
MANCHESTER

UNIVERSITY OF  
Southampton



# PROJECT HIGHLIGHTS



## FEA ANALYSIS

For optimised structural design and manufacture



## M&E FIT OUT & TESTING

full engine fit out and electric installation



## FIRE SUPPRESSION

Self contained, automatic, condensed aerosol fire suppression system



## MAINTENANCE FRIENDLY

Including side wall apertures, internal uni-strut and lifting points



## THE SOLUTION

Four 15 x 3 x 4.m acoustic containers were manufactured to house diesel generators and deliver a specified noise reduction to 75 dB(A) @ 7m from the ventilation inlet and outlet. Factory M&E Fit out was complemented by a client witnessed FAT test before transportation to site.

To facilitate the double decked installation, each container was subject to a full FEA structural analysis incorporating baseplate lugs, each tested to lift a minimum of 20 tonnes.

The necessary cooling was provided by free-flow ventilation, driven directly from the Caterpillar® engine with airflow regulated through motorised dampers on the inlet attenuator and gravity dampers on the outlet.

An internally mounted exhaust silencer was integrated into the container and fully thermal lagged to control surface temperatures. An internal 1200 litre day tank connected to an external diesel belly tank, necessitated a comprehensive fire suppression system within the container.

Apertures within the container side wall and uni-strut welded at high level eased the installation of cables and fuel feeds, whilst an external cable linked box provided a simple on-site power connection.



Specialist Acoustic Control  
**Acoustic Containers & Enclosures**

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