Glovebox Extract Ventilation System Ductwork Support Design

Case study

The client selected EASL to undertake the structural design of ductwork supports on their glovebox extract ventilation system based on knowledge of EASL's past performance in pipework and ductwork support design. EASL specified the support location and type required to achieve compliance of the ductwork with the relevant design code and provided technical input to the installation phase of the project on behalf of the client.

Methodology

EASL commenced by working with the client to understand the specification of the ductwork system and therefore the requirements of the supporting arrangements. The project specification included a requirement that the ductwork system have a minimum of one hour fire resistance. Assessment of the existing building construction was also required to ensure it would withstand the additional loading from the new ductwork. EASL also made sure that we understood any relevant issues regarding the existing facility design.

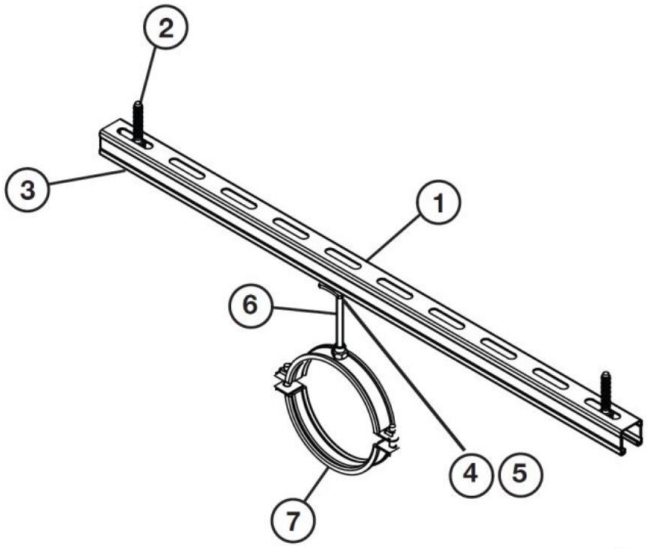

Figure 1 Typical support configuration local to support clamp

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EASL undertook a site survey in order to understand exactly where supports could be located to ensure that full consideration had been given to the spacial constraints of the existing facility. A ductwork system support arrangement was then developed in accordance with the requirements of the ventilation for buildings – ductwork hangers and supports code, BS EN 12236:2002 and Building Engineering Services Association - Specification for Sheet Metal Ductwork, DW/144.

EASL provided on-going support to the client throughout the project. This included the provision of advice to the client regarding specific technical decisions required during the installation of the ductwork supports due to challenges that were encountered during this phase of the project.

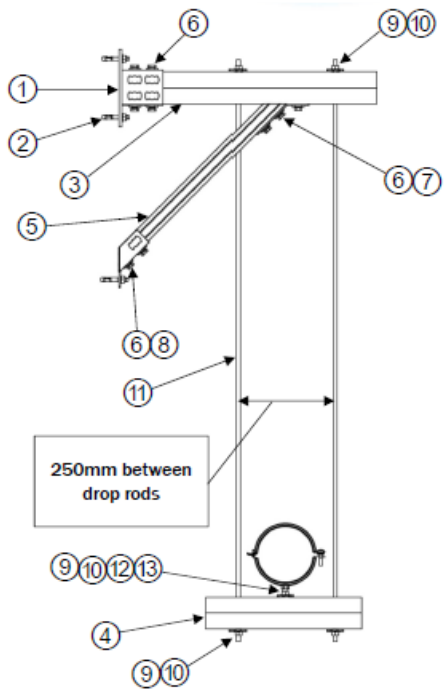

Figure 2 Typical support configuration including attachment arrangement to building facility

The design solution developed included details of the support locations, the specification of the support components (bill of materials) and a recommended manufacturer who was able to supply the required support components which met the required specification. EASL also undertook a building structural assessment concluding that there was adequate load capacity in the building design to accommodate the additional loading from the new ductwork and associated supports.

Conclusions

This project highlights EASL's capability to understand and develop a client's requirements and then provide an innovative design solution including demonstration of compliance with the relevant design code. Furthermore, it shows EASL's commitment to clients throughout the project life-cycle, including the provision of support and specialist advice during the installation of an EASL design solution.

Other applications

EASL benefited this client by ensuring the ductwork supports associated with their glovebox extract ventilation system were adequately designed and manufactured and also installed correctly and safely on the client's site. EASL always work with clients to identify cost effective solutions to operational challenges.

If you would like to discuss how EASL can help your business please get in touch.

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