

Significantly lower carbon impact with Promat solution:

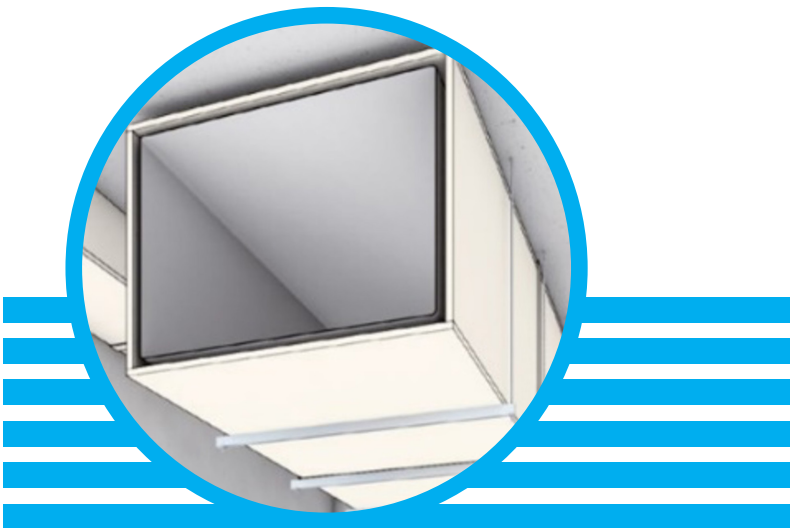
Life Cycle Assessment of 2 functionally equivalent construction Products for 90 minutes fire protection of ventilation ducts in Germany and comparative assertion

Report Description

Promat’s R&D team completed a technical study that made a comparative assertion of two construction products (a ventilation duct from PROMAT made of 1 layer of 35mm PROMATECT®-LS board assembled to form a rectangular duct with a 750mm x 400mm section versus a generic air ventilation duct of the same section made of zinc coated steel without insulation installed with a fire damper from others) capable of covering the same needs: 90 minutes fire protection for ventilation.

We issued a LCA report in June 2024 (*), available under NDA, including the Life Cycle Assessment of 2 functionally equivalent construction products as described below in the comparative assertion.

A third party verified that this LCA has been performed according to the requirements of ISO 14040/44:2006 and EN 15804+A2:2019 and a critical review of the report has also been performed.



Construction product #1

A ventilation duct made of 1 layer of 35mm PROMATECT®-LS board assembled to form a 750mm x 400mm rectangular section of air, sealed by strips of 10mm PROMATECT-H boards over longitudinal joints. The boards are stapled and glued using Promat K84 glue. The boards are manufactured in Tisselt, Blegium. The duct is then coated with Promat SR Impraeagnierung. The ventilation duct is suspended using steel rod hangers and steel supports.

Weight for 1 linear meter (lm) of duct: 50,1 kg

Construction product #2

A generic air ventilation duct made of zinc coated steel without insulation shaped to form a 750mm x 400mm rectangular section of air. It is made with 1mm steel sheet. The ventilation duct also includes a fire damper every 10 linear meter of duct, to provide the fire protection. The ventilation duct is suspended using similar steel rod hangers and steel supports than for construction product #1.

Weight for 1 linear meter (lm) of duct: 29,6 Kg/m²

The Promat solution shows a significant lower carbon impact than the steel ventilation duct solution from cradle to gate.

CARBON FOOTPRINT

Total Global Warming Potential (GWP) including fossil, biogenic and luluc GWP		Construction product #1 Promat Solution	Construction Product #2 Steel duct solution
Product - Cradle to gate [A1-A3]		65,6 kgCO2 eq/lm	90,4 kgCO2e/lm

PRODUCT			CONSTRUCT		BUILDING MAINTENANCE AND USE - B							BUILDING END OF LIFE - C				
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	
Raw Material	RM Transport to Factory	Manu- facture products	Transport to site	Con- struction of the building	Use	Main- tenance	Repair	Replace- ment	Refur- bishment	Energy use for Building usage	Water Use for Building usage	Demol- ishing the building	Haul away waste materials	Recycling	Disposal	
Embodied carbon												Embodied carbon				



(*) The LCA report (ETEX-CA24002) is a comparative assertion of 2 functionally equivalent construction products for 90 minutes fire protected ventilation ducts in the Germany, based on two life cycle assessments. The report methodology and assessment have been reviewed and verified by an independent expert specialized in embodied carbon and life cycle analysis, in accordance with ISO 14044:2006 & EN15804+A2:2019. The certificate of compliance is available upon request.