Built to Order™

BUILT TO ORDER™ STAGE 01 OF 4 · INTERNAL WORKFLOW

DESIGN SURVEY · BRIEF, SITE SURVEY AND DESIGN INTENT

Measured airflow. Recorded conditions.

Capture the brief, measure the site and prepare a design intent for review. This fictional survey records 27.5% of its stated airflow target with the faulty hallway smoke damper temporarily opened. The as-found operating flow is not established by those readings.

PREPARED BY	END CLIENT	SITE
Aldon Project Consultants	Northgate Logistics Group	Unit 12, Ashfield Park, Meadow Lane, Northgate
SURVEY DATE	**REFERENCE**	**STATUS**
22 April 2026 · BS EN 16798-1 Cat II	BTO-NLG-DSV-001	For review

Illustrative example: fictional project and parties.

27.5%
Of stated target, measured-open condition

0.248
Measured with damper open, cu m per second

1 of 2
Smoke dampers faulty

75
Design occupancy, peak

01
PURPOSE

Capture the brief, then prove it on site

Aldon Project Consultants was instructed, acting for Northgate Logistics Group, to design sufficient fresh air into the canteen at Unit 12, Ashfield Park, and to assess two smoke dampers that were not operating. The Design Survey stage captures the brief, records the site with a measured survey, and prepares a review-ready report with a single buildable design intent for the firm's competent reviewer to approve. The skills prepare the draft; the technical reviewer validates and issues it.

MEASURED AIRFLOW	PER PERSON	CANTEEN EXTRACT
Damper open, against stated target	Against about 12 L/s target	No dedicated extract found
27.5%	**3.3 L/s**	**None**

KEEP THE MEASUREMENT CONDITION VISIBLE

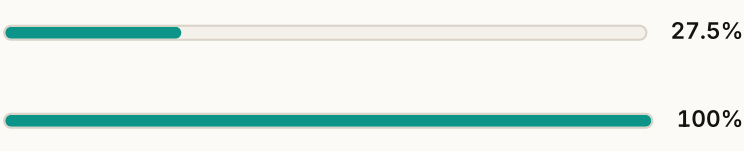
The 0.248 cu m per second reading was taken with the hallway smoke damper temporarily opened, then returned to its found condition. It is not an as-found supply measurement. The stated 0.9 cu m per second design target and proposed design intent remain for competent technical review.

02
AIRFLOW

What the six diffusers actually deliver

In-situ air volumes were measured at each of the six canteen supply diffusers with a calibrated balometer hood. With the faulty hallway smoke damper temporarily opened, the readings total 247.6 L/s (rounded to 0.248 cu m per second). Against this example's stated 900 L/s target, that is 27.5%, rounded to one decimal place from the raw total. The recorded BS EN 16798-1 Category II basis for 75 people remains subject to technical review.

SUPPLY GRILLE	VELOCITY, M/S	FLOW, L/S	DAMPER
Grille 1	3.50	22.9	Circular VCD
Grille 2	8.49	56.1	No VCD fitted
Grille 3	6.63	43.8	Rectangular VCD
Grille 4	4.86	31.9	Circular VCD
Grille 5	8.01	52.9	Rectangular VCD
Grille 6	6.08	40.0	Rectangular VCD
Total measured, damper open		**247.6**	**27.5% of stated target**



03

OCCUPANCY & DAMPERS

Compare the readings, not a safe occupancy

The measured-open total gives 3.3 L/s per person at 75 people. The comparisons below use that temporary measurement condition and the example's stated 12 L/s-per-person target; they are not a safe-occupancy or compliance decision. About 30 people were observed at peak, with windows opened for cooling.

OCCUPANCY	L/S PER PERSON	OF STATED TARGET	CALCULATED COMPARISON
75, design peak	3.3	27.5%	Below stated target
40, busy	6.2	52%	Below stated target
30, observed	8.3	69%	Below stated target
About 20	12.4	103%	Above stated target in measurement condition only

ONE OF TWO SMOKE DAMPERS IS FAULTY

The canteen smoke damper at the duct entry is operational, its magnet confirmed working. The hallway smoke damper near the clock-in is stuck closed and not re-magnetising, and was restricting airflow. It was opened for the measurements and returned to its found condition. It needs replacement. All other dampers are manual volume-control dampers for balancing.

04
DESIGN INTENT

The design intent, and what constrains it

The proposed design intent targets about 0.9 cu m per second of fresh air for the stated 75-person peak, with dedicated extract, supply reinstatement to the male WC and shower, and replacement of the faulty hallway smoke damper. This is for competent design review, not a verified design, completed repair or confirmation of compliance.

CONSTRAINT	EFFECT ON THE DESIGN
480 mm ceiling void	Limits duct routing for any new supply or extract
Layout differs from the 1995 drawing	Drawing 95-6816-M13 Rev C no longer matches; sections altered in later refurbishments
Shared air-handling control	All canteen ventilation runs from the office air-handling panel, accessed via a locked service corridor
Decommissioned kitchen ventilation	Kitchen supply and extract are capped but visible; not reusable as found

REVIEW BEFORE A DESIGN HANDOFF

Once reviewed, a survey can inform a subsequent design brief. This specimen remains For review. The linked Design Pack illustrates a separate canopy commission at Ashfield Park; it is not the next output of this canteen survey.

Reference BTO-NLG-DSV-001 **Site** Ashfield Park, Northgate

Related example Canopy Design Pack