

FIRE DUCT.  
FIRE INSIDE OR OUTSIDE DUCT  
TO BS 476 PART 24 AND ISO 6944

# FLAMEBAR BW11 FIRE DUCT – UP TO 2 HOURS STABILITY AND INTEGRITY WITH VARIABLE INSULATION RATING AS BELOW.



Firespray International Limited

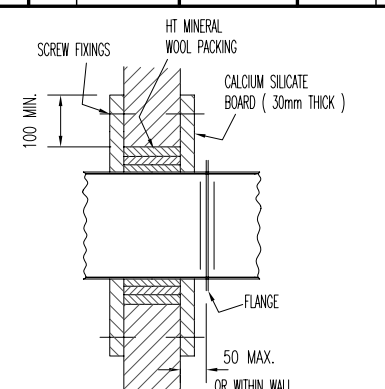
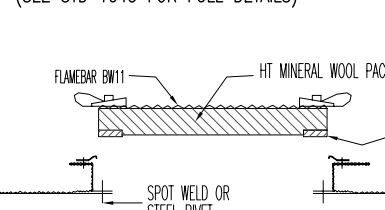
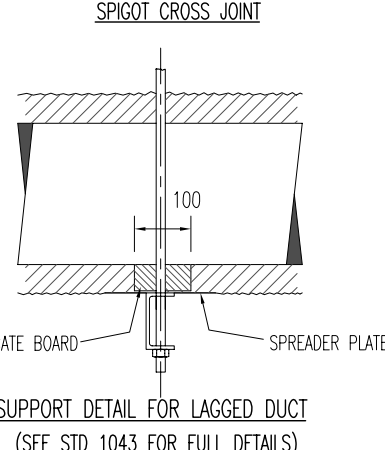
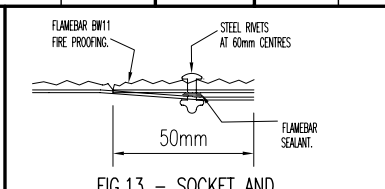
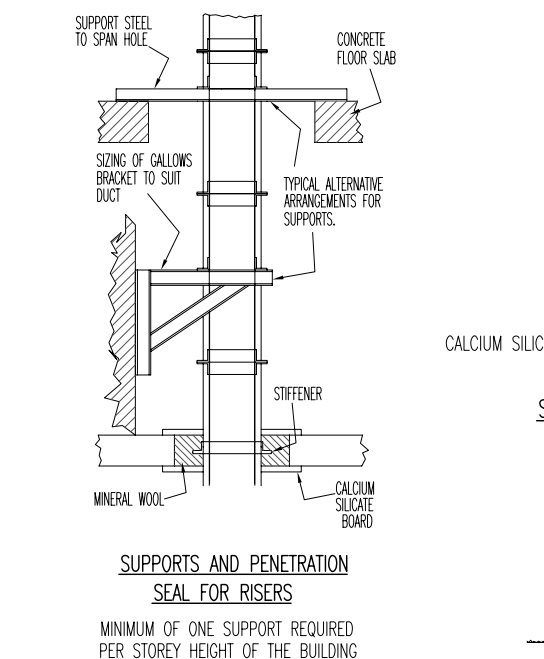
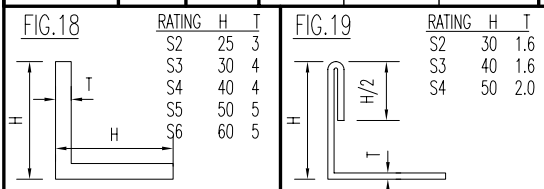
HANGER SIZING BASED ON:  
60 min 15N/mm<sup>2</sup>  
120 min 10N/mm<sup>2</sup>  
240 min 6N/mm<sup>2</sup>

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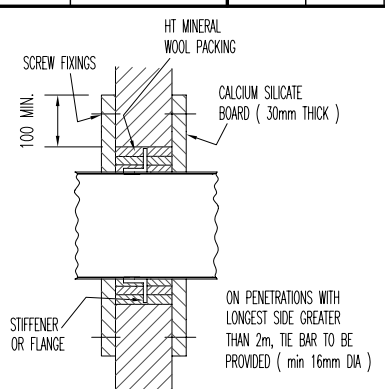
## RECTANGULAR DUCTWORK SPECIFICATION BASED ON D.W 144. HIGH VELOCITY UP TO 2500 Pa POSITIVE PRESSURE

## STABILITY, INTEGRITY, AND INSULATION RATING

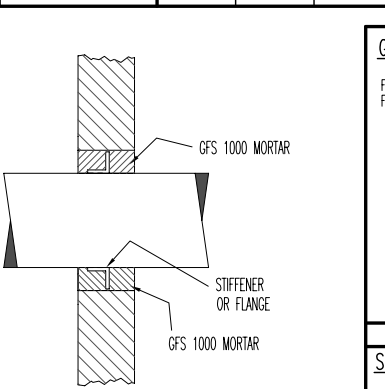
LONGEST SIDE	GAUGE	STD FLANGE STRAIGHTS LENGTH	STIFFENING NON-STANDARD			CROSS JOINTS		FLANGE FIXING TO DUCT	LONGITUDINAL JOINTS		RADIUS BENDS		MAXIMUM SIZE	HORIZONTAL DUCT 1500 BEARER CENTRES			HORIZONTAL DUCT 1500 BEARER CENTRES			HORIZONTAL DUCT 1500 BEARER CENTRES			HORIZONTAL DUCT 1500 BEARER CENTRES			HORIZONTAL DUCT 1500 BEARER CENTRES			HORIZONTAL DUCT 1500 BEARER CENTRES		
			MAXIMUM SPACING	FIXING	ANGLE SECTION	RATING	TYPICAL FLANGE SIZE		CORNER	SHEET	THROAT RADIUS.	No. OF SPLITTERS		HANGER SIZE mm	BEARER MEMBER		HANGER SIZE mm	BEARER MEMBER		HANGER SIZE mm	BEARER MEMBER		HANGER SIZE mm	BEARER MEMBER		HANGER SIZE mm	BEARER MEMBER		HANGER SIZE mm	BEARER MEMBER	
															Z cm <sup>3</sup>	SIZE		Z cm <sup>3</sup>	SIZE		Z cm <sup>3</sup>	SIZE		Z cm <sup>3</sup>	SIZE		Z cm <sup>3</sup>	SIZE		Z cm <sup>3</sup>	SIZE
UP TO 400	0.6	1260 or 1510	NIL	NIL	NIL	MIN A1	20 mm SLIDE ON FLANGE FIG.11 OR SLIP JOINT FIG.13	RIVET OR SPOTWELD @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	NIL	150	NONE.	400 x 200	8	0.44	40 x 20 x 1.5 mm SLOTTED CHANNEL	8	0.49	40 x 20 x 1.5 mm SLOTTED CHANNEL	8	0.83	40 x 20 x 1.5 mm SLOTTED CHANNEL	8	1.02	40 x 20 x 1.5 mm SLOTTED CHANNEL	8	2.27	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	2.33	40 x 40 x 2.5 mm SLOTTED CHANNEL
													400 x 400	8	0.56	40 x 20 x 1.5 mm SLOTTED CHANNEL	8	0.62	40 x 20 x 1.5 mm SLOTTED CHANNEL	8	1.11	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.31	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	2.92	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	3.01	40 x 40 x 2.5 mm SLOTTED CHANNEL
401 UP TO 600	0.8	1260 or 1510	1260 CRS	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS	RATING S2	MIN J2	20 mm SLIDE ON FLANGE FIG.11	RIVET OR SPOTWELD @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	NIL	150	1	600 x 300	8	0.93	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.01	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.62	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.85	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	4.15	40 x 60 x 2.5 mm SLOTTED CHANNEL	8	4.16	40 x 60 x 2.5 mm SLOTTED CHANNEL
													600 x 600	8	1.17	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.27	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	2.08	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	2.50	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	5.31	40 x 60 x 2.5 mm SLOTTED CHANNEL	8	5.34	40 x 60 x 2.5 mm SLOTTED CHANNEL
601 UP TO 800	0.8	1260 or 1510	1000 CRS	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS	RATING S3	MIN J3	30 mm SLIDE ON FLANGE FIG.11	RIVET OR SPOTWELD @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	GROOVED SEAM OR WELD.	150	1	800 x 400	8	1.35	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.45	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	2.47	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	2.77	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	5.76	40 x 60 x 2.5 mm SLOTTED CHANNEL	8	5.76	40 x 60 x 2.5 mm SLOTTED CHANNEL
													800 x 800	8	1.68	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	1.81	40 x 40 x 1.5 mm SLOTTED CHANNEL	8	3.10	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	3.50	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	7.63	40 x 80 x 2.5 mm SLOTTED CHANNEL	10	7.64	40 x 80 x 2.5 mm SLOTTED CHANNEL
801 UP TO 1000	0.8	1260 or 1510	800 CRS	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS	RATING S4	MIN J4	40 mm SLIDE ON FLANGE FIG.11	RIVET OR SPOTWELD @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	GROOVED SEAM OR WELD.	150	2	1000 x 500	8	2.15	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	2.28	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	3.41	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	4.08	40 x 60 x 2.5 mm SLOTTED CHANNEL	8	8.15	40 x 80 x 2.5 mm SLOTTED CHANNEL	10	8.11	40 x 80 x 2.5 mm SLOTTED CHANNEL
													1000 x 1000	8	2.62	40 x 40 x 2.5 mm SLOTTED CHANNEL	8	2.78	40 x 40 x 2.5 mm SLOTTED CHANNEL	10	4.56	40 x 60 x 2.5 mm SLOTTED CHANNEL	10	5.06	40 x 60 x 2.5 mm SLOTTED CHANNEL	10	11.14	76 x 38 CHANNEL	10	11.06	76 x 38 CHANNEL
1001 UP TO 1500	1.0	1260 or 1510	625 CRS	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS	RATING S5	MIN J5	40 mm SLIDE ON FLANGE FIG.11 WITH TIE ROD	RIVET OR SPOTWELD @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	GROOVED SEAM OR WELD.	150	2	1500 x 750	10	5.00	40 x 60 x 2.5 mm SLOTTED CHANNEL	10	5.18	40 x 60 x 2.5 mm SLOTTED CHANNEL	10	7.97	40 x 80 x 2.5 mm SLOTTED CHANNEL	10	8.53	40 x 80 x 2.5 mm SLOTTED CHANNEL	12	16.84	76 x 38 CHANNEL	12	16.37	76 x 38 CHANNEL
													1500 x 1500	10	5.94	40 x 60 x 2.5 mm SLOTTED CHANNEL	12	6.83	40 x 80 x 2.5 mm SLOTTED CHANNEL	12	9.64	40 x 80 x 2.5 mm SLOTTED CHANNEL	12	11.80	76 x 38 CHANNEL	12	23.60	102 x 51 CHANNEL	16	22.92	102 x 51 CHANNEL
1501 UP TO 2000	1.2	1260 or 1510	625 CRS	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS	RATING S5	MIN J5	40 mm SLIDE ON FLANGE FIG.11 WITH TIE ROD	RIVET OR SPOTWELD @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	GROOVED SEAM OR WELD.	150	3	2000 x 1000	12	11.18	76 x 38 CHANNEL	12	12.15	76 x 38 CHANNEL	12	14.58	76 x 38 CHANNEL	12	15.33	76 x 38 CHANNEL	16	29.61	102 x 51 CHANNEL	16	28.70	102 x 51 CHANNEL
													2000 x 2000	16	12.56	76 x 38 CHANNEL	16	12.89	76 x 38 CHANNEL	16	16.98	76 x 38 CHANNEL	16	17.97	76 x 38 CHANNEL	16	35.15	102 x 51 CHANNEL	20	34.08	102 x 51 CHANNEL
2001 UP TO 2500	1.2	1235 or 1485	500 CRS	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS	RATING S6	MIN J6	50 x 50 R.S.A. WITH TIE ROD	SPOTWELD, RIVET, OR HUCKBOLT @ 150 CRS MAX	R.A.S. FIG 2 OR PITTSBURGH LOCK. FIG 3	GROOVED SEAM OR WELD.	150	3	2500 x 1250	16	23.14	102 x 51 CHANNEL	16	23.45	102 x 51 CHANNEL	16	28.23	102 x 51 CHANNEL	16	29.17	102 x 51 CHANNEL	16	51.87	127 x 64 CHANNEL	20	50.01	127 x 64 CHANNEL
													2500 x 2500	16	25.28	102 x 51 CHANNEL	16	25.69	102 x 51 CHANNEL	16	31.86	102 x 51 CHANNEL	20	33.10	102 x 51 CHANNEL	20	59.99	127 x 64 CHANNEL	20	57.77	127 x 64 CHANNEL



A PENETRATION SEAL MUST BE INSTALLED AT EVERY COMPARTMENT WALL. THESE SEALS ARE NOT INCLUDED UNLESS STATED, AND ALTERNATIVE MANUFACTURERS CAN BE USED, PROVIDED THE SEAL IS CERTIFICATED TO BS476 PART 20 FOR THE CORRECT FIRE RATING.



ALTERNATIVE WALL PENETRATION SEAL



ALTERNATIVE WALL PENETRATION SEAL

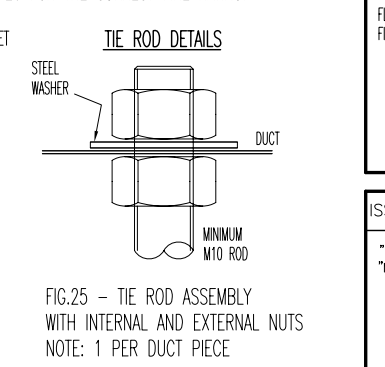
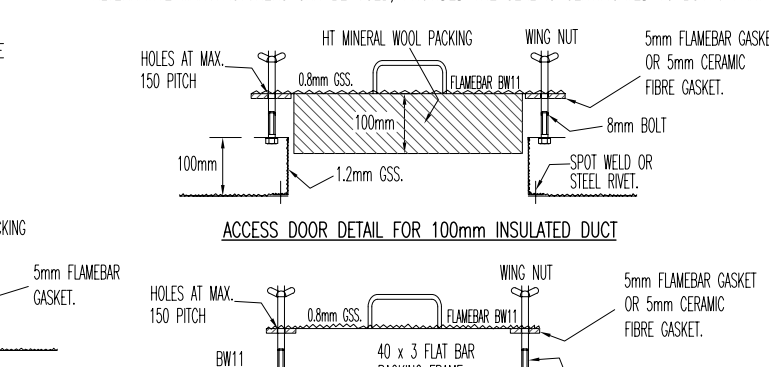


FIG.25 - TIE ROD ASSEMBLY WITH INTERNAL AND EXTERNAL NUTS  
NOTE: 1 PER DUCT PIECE

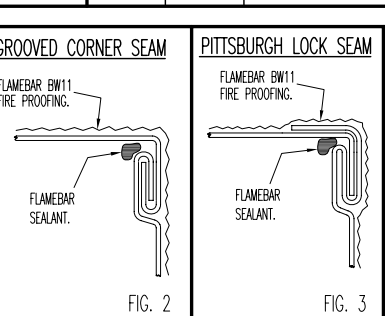


FIG. 2

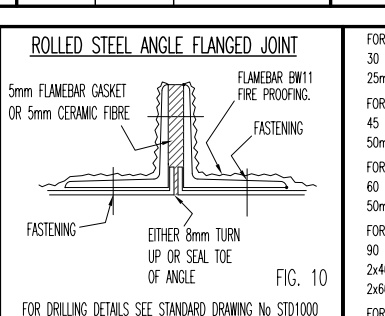


FIG. 3

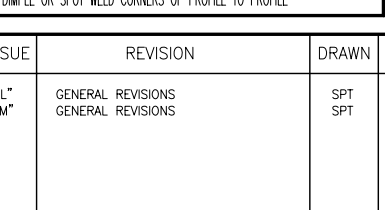
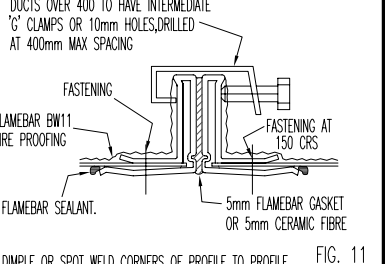
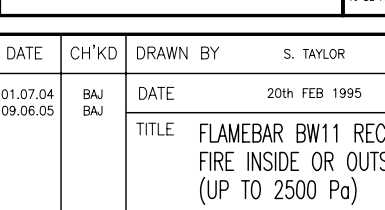
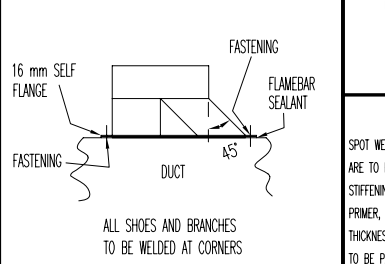


FIG. 11



DUCT WITH INSULATION RATING

FOR 60 min INSULATION WITH FIRE OUTSIDE AND 30 min INSULATION WITH FIRE INSIDE: 25mm THICK AT 45 Kg/M <sup>3</sup> INSULATION	FOR 90 min INSULATION WITH FIRE OUTSIDE AND 45 min INSULATION WITH FIRE INSIDE: 50mm THICK AT 60 Kg/M <sup>3</sup> INSULATION	FOR 120 min INSULATION WITH FIRE OUTSIDE AND 60 min INSULATION WITH FIRE INSIDE: 50mm THICK AT 105 Kg/M <sup>3</sup> INSULATION	FOR 120 min INSULATION WITH FIRE OUTSIDE AND 90 min INSULATION WITH FIRE INSIDE: 2x40mm THICK AT 105 Kg/M <sup>3</sup> INSULATION OR 2x60mm THICK AT 60 Kg/M <sup>3</sup> INSULATION	FOR 120 min INSULATION WITH FIRE OUTSIDE AND 120 min INSULATION WITH FIRE INSIDE: 2x50mm THICK AT 105 Kg/M <sup>3</sup> INSULATION
NOTE - FIGURE NUMBERS ARE EQUIVALENT OF D.W 144 SKETCHES				
SLIDE-ON FLANGE DUCTS OVER 400 TO HAVE INTERMEDIATE 'G' CLAMPS OR 10mm HOLES, DRILLED AT 400mm MAX SPACING				
DETAIL OF SHOE CONNECTION 16 mm SELF FLANGE FASTENING AT 150 CRS				
DUCT WITH INSULATION RATING INSULATION BW11				
PAINT SPOT WELDS AND AREAS WHERE GALVANISING OF SHEET IS DAMAGED ARE TO HAVE ONE COAT OF GALVANODIPYNT. FLANGES AND STIFFENING FRAMED ARE TO HAVE TWO COATS OF ZINC PHOSPHATE PRIMER, UNDERCOAT TO BE RED AND TOP COAT GREY. PRIMER THICKNESS TO BE NOT LESS THAN 50 MICRONS. STIFFENERS ARE TO BE PAINTED BEFORE FIXING TO DUCT.				
ISSUE	REVISION	DRAWN	DATE	CH'KD
"L" "M"	GENERAL REVISIONS GENERAL REVISIONS	SPT SPT	01.07.04 09.06.05	BAJ BAJ
DRAWN BY S. TAYLOR ENGINEER B. A. JAMES				
DATE 20th FEB 1995 SCALE NTS.				
TITLE FLAMEBAR BW11 RECTANGULAR FIRE DUCT FIRE INSIDE OR OUTSIDE (UP TO 2500 Pa)				
Firespray International Limited Telephone +44 1279 634230 Fax +44 1279 634232				
e.mail - info@firespray.eu.com website - www.firespray.eu.com				
DRG No. STD200 Sht 1				