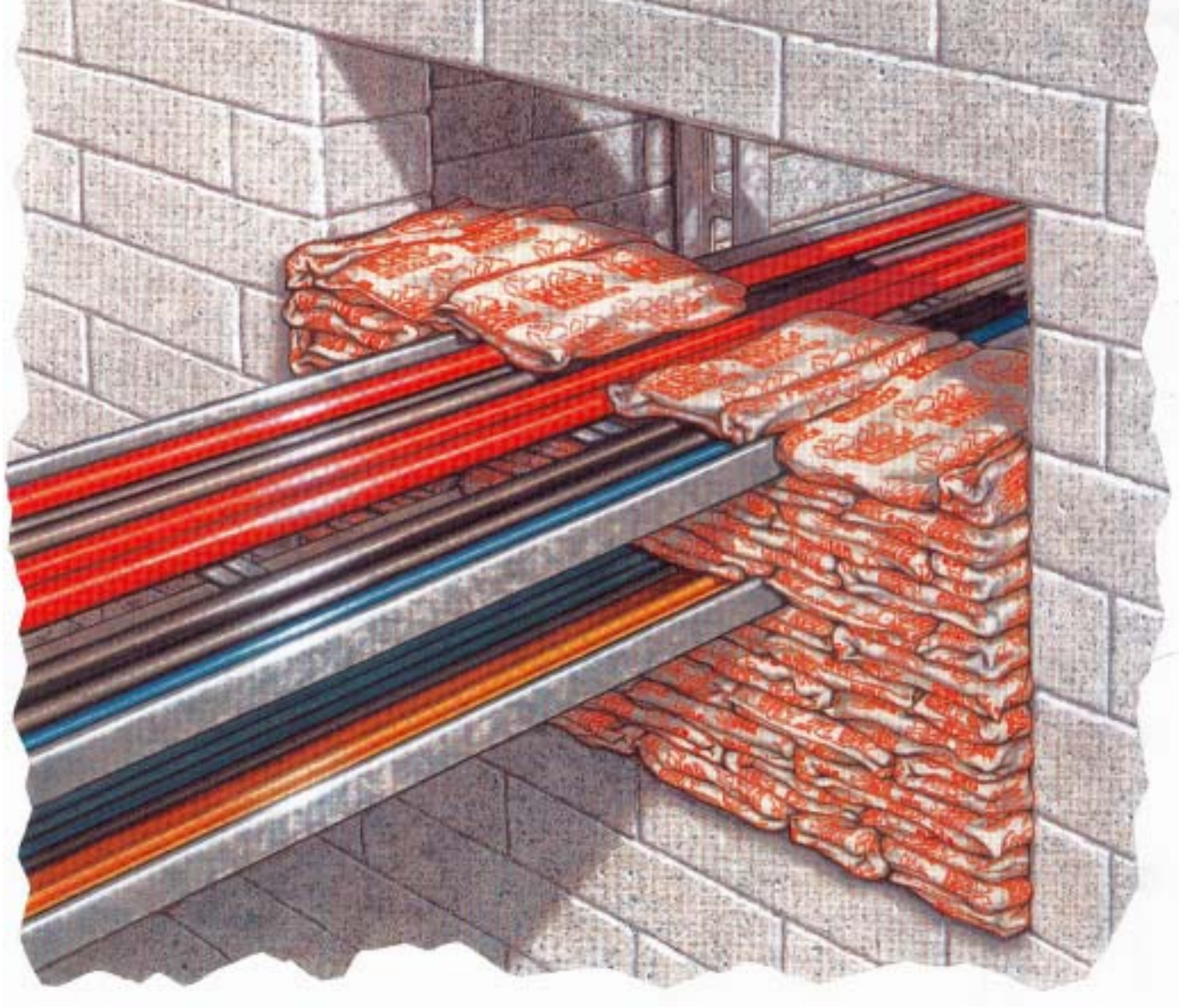

Sealbags

Expanding pillows for
penetration seals

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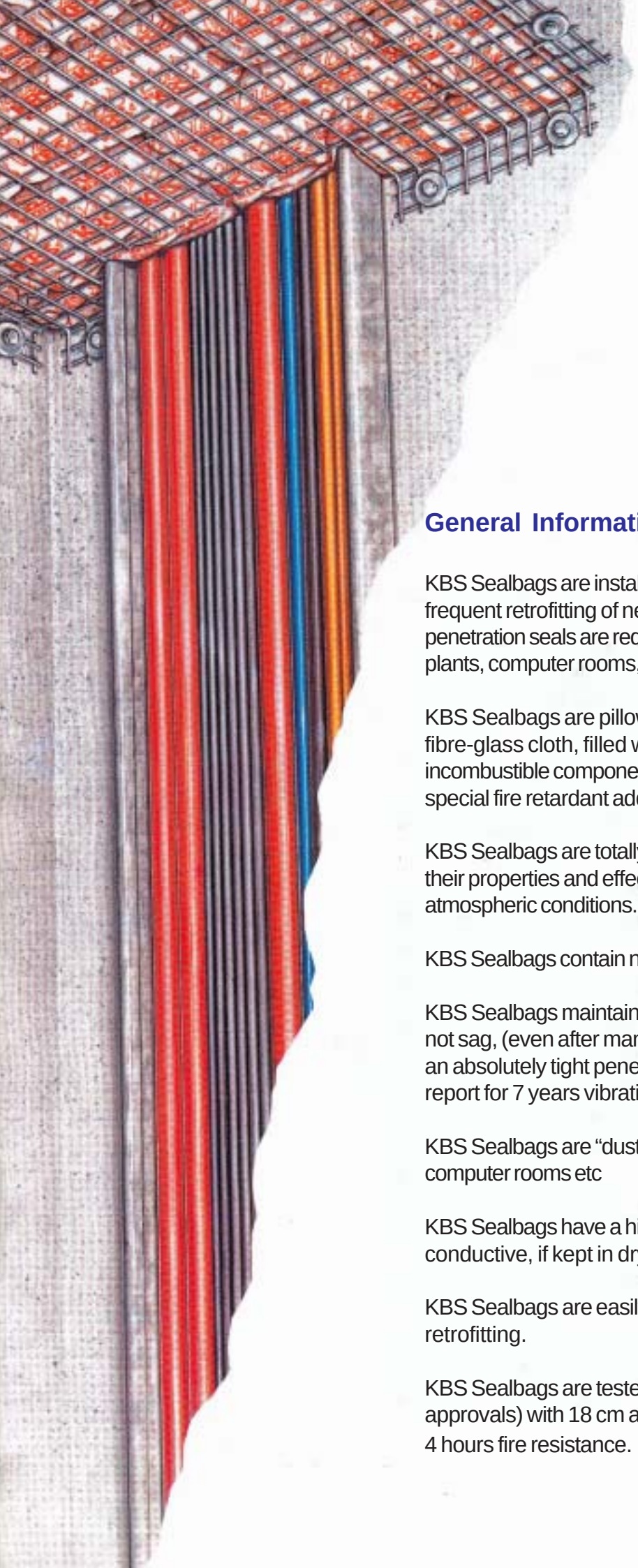


General Information

KBS Sealbags are installed in cable penetration seals, where frequent retrofitting of new cables is expected or where dustfree penetration seals are requested, e.g. telephone exchanges, pilot plants, computer rooms, etc.

KBS Sealbags are pillows consisting of tightly woven, durable fibre-glass cloth, filled with a combination of mineral fibres, incombustible components, water-insoluble expansion agents and special fire retardant additives.

KBS Sealbags are totally water- and weather-resistant and retain their properties and effectiveness in all weather, temperature and atmospheric conditions.

KBS Sealbags contain no asbestos nor any other toxic substance.

KBS Sealbags maintain their volume constancy. Since the bags do not sag, (even after many years of exposure to industrial vibrations) an absolutely tight penetration seal can be maintained (official report for 7 years vibration test available).

KBS Sealbags are “dustproof” for use in telephone exchanges, computer rooms etc

KBS Sealbags have a high electric resistance and are not current conductive, if kept in dry conditions.

KBS Sealbags are easily installed and just as easily removed for retrofitting.

KBS Sealbags are tested internationally (see list of reports and approvals) with 18 cm and 34 cm sealing thickness providing up to 4 hours fire resistance. They are FM- and UL-listed.

How they react in fire:

-At approx.130°C the various components of the bags start gluing up and sticking together, preventing the fillers from running out, even it the wrap is damaged by mechanical impact.

-At approx. 280°C the content begins to expand up to 40%, so that even the smallest remaining spaces between cables, trays and masonry are tightly closed.

-At approx. 800°C a "ceramic reaction" causes the content to harden into a solid block. The seal becomes mechanically so strong that it will withstand mechanical damage caused by falling debris etc. or a hose stream from fire fighters.

Uses of KBS Sealbags:

-KBS Sealbags are used to provide permanent or temporary fire stops for electrical cables. They are especially suited where frequent cable changes are expected and are also ideally suited to provide fore protection during the construction phase of a project.

-KBS Sealbags are also used to seal bare or insulated bus bars penetrating walls or floors. For bare bus bars an additional wrapping with an electrical insulating tape is recommended.

-KBS Sealbags provide smoke-gastight penetration seals where cold smoke from a distant fire will not pass through and in cade of a nearby fire any gaseous extinguishing agents (used in computer rooms etc) will keep their extinguishing concentration.

-KBS Sealbags are ideal for the protection of cables in double floors of processing centres.

-KBS Sealbags may also be used to cover cables in trays against fire from sources such as welding.

-KBS Sealbags come in various sizes so as to allow the sealing of even the smallest openings.

Available sizes

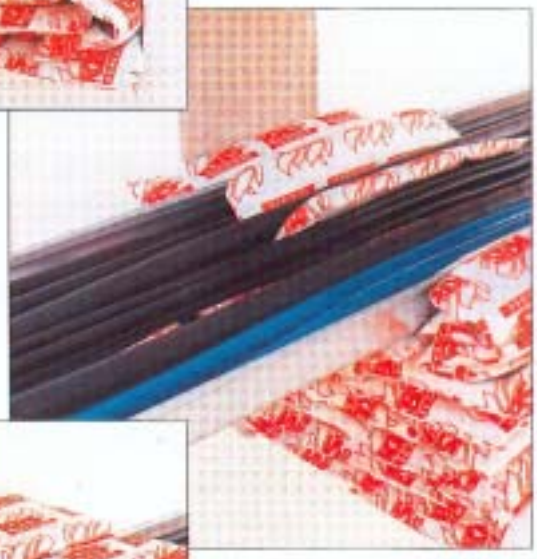
Standard types:

Type	Total weight in grams (approx.)	Size in mm (approx.) Length x width x height (not patted)	Packaging bags per carton
KBS Sealbag 400 KBS Sealbag 720	400 720	340 x 180 x 18 340 x 180 x 35	35 20
Special types available on request:			
Type	Total weight in grams (approx.)	Size in mm (approx.) Length x width x height (not patted)	Packaging bags per carton
KBS Sealbag 250 KBS Sealbag 1500	250 1500	340 x 180 x 13 340 x 330 x 35	20 10

Wall penetration

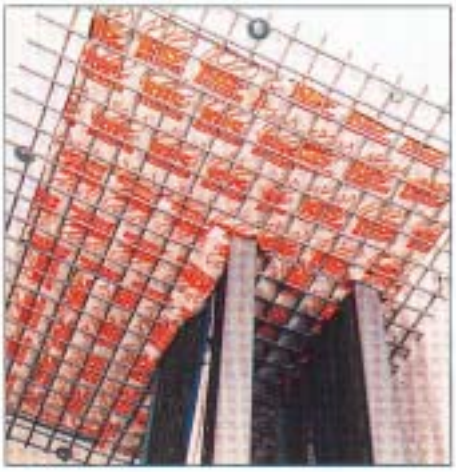
KBS Sealbags should be patted by hand so that the content is distributed evenly before inserting them into the opening. KBS Sealbags should be placed into the opening by staggering the joints.

Use a smooth wooden stick to help push Sealbags in place.



Floor and ceiling openings

A wire screen must be installed to the underside of the opening. The screen should be fastened to the ceiling using steel dowels and washers.



Place KBS Sealbags lengthwise and flat onto the wire mesh, layer after layer. This allows any tight spaces to be filled.

If it is necessary to walk on the floor penetration seal, apply a suitable cover.

For more details see our installation recommendations in each carton.

The above data, particularly the recommendations for the application and use of our products, is based on our knowledge and experience. Due to different materials and conditions of application, which are beyond our control, we recommend in any case to carry out sufficient tests in order to ensure that our products are suitable for the intended processes and applications. Therefore, any liability for such recommendations or any oral advice is expressly excluded unless we have acted wilfully or by gross negligence.

Sealbags

Selection of International Test Results and Approvals

Country	Testing institute / Approval body	Ceiling or wall test	Sealbag Seal thickness (mm)	No. of Cables / pipes	official fire resistance rating F/T**	Standard
Australia	Warrington	wall	340	477	180 F	AS1530 p4
		floor	340	477	120-180 F/T	
Belgium	University of Gent	floor	250	17	130	NBN 713020
		wall	150-330	10	90	NBN 713020
	University of Liege	wall	340	12	149	NBN 713020
		wall	340	12	149	NBN 713020
		wall	340	cable & pipe	180	NBN 713020
France	C.S.T.B	wall	340	19	180	Arrete
		wall	180	9	120	21.4.83
Germany	State Materials testing institute DIBt Berlin	floor	340	124	90 F	DIN4102
		wall	340	320	90 F	DIN4102
		wall	340	60% fill	90 F	DIN4102
		floor	340	60% fill	90 F	DIN4102
Italy	CSI	wall	340	42	REI180	CM91
		wall	190	10	REI120	CM91
Netherlands	TNO	wall	310	17	240 F	NEN 3884 (ISO 834)
South Africa	S.A.B.S	wall	330	22	120	SABS0177 p2
Spain	I.N.I.A	floor	240	34	180	UNE 23.802
		floor	150	-	180	UNE 23.802
Sweden	Statens Provningsanstalten	wall	300	100	A90	SBN-PFS
		floor	210	100	A120	1983-2
Switzerland	EMPA	floor	210	64	90 F	ISO 834
UK	LPC	wall	340	35	180	BS476 p. 8
		floor	180	13	180	BS476 p. 8
		floor	340	various pipe	180 F/T	UL1479 ISO 834
USA	UL	wall	330	-	240 F/T	UL1479
		floor	330	9 bundles	180 F	UL1479
USA	FM Global	wall	330	-	180 T	FM4990
		floor	330	9 bundles	180 F/T	FM4990
USA	UL	wall	330	-	240 F/T	ASTME814
		floor	330	9 bundles	180 F	ASTME814
USA	FM Global	wall	330	-	180 T	ASTME814
		floor	330	9 bundles	180 F/T	ASTME814

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