

# TRANSFLAM™

FLAME RETARDANT COVER RANGE  
FOR UNCOMPROMISING SAFETY

## PRODUCT SHEET



### HIGHLIGHTS

- Excellent fire resistance and protection against flame propagation
- Improved abrasion and impact resistance
- Cost competitive solution for typical applications
- Applicable on steel cord and textile belts
- In compliance with electrical and safety requirements of many international standards

### APPLICATIONS



Underground mining  
Hard rock mining



Cement industry



Steel industry



Grain and sugar industries  
Mineral processing plants



Overland conveyors  
Paper and wood industries  
Port operations  
Power and heating plants  
Recycling industry  
Tunnelling

Transflam™ ensures absolute safety for both surface and underground applications exposed to fire hazard, including power generation and tunnelling.

### THE CONCEPT

Transflam is especially designed to prevent the propagation of an accidental fire and guard against the risk of explosion due to its improved static conductivity.

Sempertrans belts with the Transflam cover fulfill the highest safety requirements according to EN 14937 Class A, B2 and C2, EN 12882 and ISO 340, but also various other international standards such as Australian FRAS-S, FRAS-F and AS-4606-2012, or the American MSHA.

### COMPOSITION OF TRANSFLAM

Transflam conveyor belts are composed of special compounds with chemicals ensuring the highest protection against fires.

Depending on the application, they can be ordered in different safety classes - from properties that decrease the probability of catching fire for above ground applications up to self-extinguishing belts for the use in underground coal mines.

### AVAILABLE FOR THE FOLLOWING BELT TYPES

- Multitrans
- Sempercord
- Metalcord
- Metaltrans
- Autostable
- Transpipe
- Ripstop
- Translev
- Biathlon



## PRODUCT FEATURES

Our Transflam™ range includes conventional K, S and V grades, but also complies with additional specific international and national standards:

**K:** Flame retardant cover according to ISO 340 and antistatic properties according to ISO 284. For general use with electrical and fire safety requirements in line with EN 12882 as well as the former German grade K as defined in DIN 22131 and DIN 22102.

**S:** Flame retardant cover and carcass according to ISO 340, anti-static according to ISO 284. For general use with electrical and fire safety requirements in line with EN 12882 as well as the former German grade S as defined in DIN 22102. For use in underground mining according to Australian Standard AS-4606-2012.

**TG-V:** Flame retardant cover for underground use with electrical and fire safety requirements to EN 14973 and for general use with electrical and fire safety requirements in line with EN 12882.



## TECHNICAL INFORMATION

Extract from the Transflam cover standard range:

Cover grades	Defined in	Characteristics	Tensile strength (MPa)	Elongation at break (%)	Abrasion resistance [mm <sup>3</sup> ]
K	DIN 22131 and DIN 22102	Flame retardant with cover according to ISO 340 and EN 12882	≥ 20	≥ 400	150
K	DIN EN ISO 15236-1	Flame retardant with cover according to ISO 340 and EN 12882	≥ 15	≥ 350	150
S	DIN 22102	Flame retardant with and without cover according to ISO 340 and EN 12882	≥ 20	≥ 400	≤ 200
TG-V	DIN EN ISO 15236-3	Flame retardant according to EN 14973 and EN 12882	≥ 17	≥ 350	≤ 175

Class acc. EN 14973	Application	Electrical conductivity acc. ISO 284	Flammability acc. ISO 340	Propane burner tests acc. ISO 12881-1 Method A	Drum friction test acc. ISO 1554 Method B2				
					Method	Flame	Glowing	Temperature	Time
A	General use, only hazards being limited access and means of escape	< 300 MΩ	Yes	DIN EN 12881-1 Method A. If incomplete ignition achieved, use Method B or C	A1	No	Permitted	343 °C	1h
B1	Same as Class A plus potentially flammable atmosphere. Without secondary devices	< 300 MΩ	Yes	DIN EN 12881-1 Method A. If incomplete ignition achieved, use Method B or C	B2	No	No	450 °C	1h
B2	Same as Class A plus potentially flammable atmosphere. With secondary devices	< 300 MΩ	Yes	DIN EN 12881-1 Method A. If incomplete ignition achieved, use Method B or C	B2	No	Permitted	No limit	1h
C1	Same as Class B1 plus combustible dust or material conveyed. Without secondary devices	< 300 MΩ	Yes	DIN EN 12881-1, Method B or C	B2	No	No	325 °C	2.5h
C2	Same as Class B1 plus combustible dust or material conveyed and additional fuel sources. With secondary devices	< 300 MΩ	Not required	DIN EN 12881-2	A2	No	Permitted	No limit	2.5h



## TRANSFLAM™ SPECIAL COVERS

Besides the conventional covers referring to specific standards, Sempertrans has developed a range of special covers exceeding these standards. In addition to their exceptional mechanical properties, these special covers always fulfill safety regulations according to ISO 340 and anti-static requirements according to ISO 284, as well as fire safety requirements.

### DATA

Mechanical characteristics of Transflam covers:

Cover grades	Tensile strength	Elongation at break	Abrasion resistance
K	+++	++	+
K+	+++	+++	++
FH	+++	+++	+++

### FRAS-S, FRAS-F and MSHA

Part of the Transflam range comprises the flame retardant covers according to the North-American standards (MSHA and CAN-CSA) as well as to the Australian standards (FRAS-S, FRAS-F and AS-4606-2012).

### TRANSFLAM T

Transflam T is a cover grade specially developed for tunnel applications. It complies with the prevailing safety standards for tunnelling, especially with:

- EN 14973, Class A
- Electrical conductivity test ISO 284
- Laboratory scale flammability test ISO 340
- Drum friction test EN 1554
- Fire test according to EN ISO 12881, methods A, B or C

Category acc. EN 12882	Application	Electrical conductivity acc. ISO 284	Flammability acc. ISO 340	Propane burner tests acc. EN 12881-1 Method A	Drum friction test acc. ISO 1554				
					Method	Flame	Glowing	Load	Time
1	General use	< 300 MΩ	Not required	Not required					
2A	Same as category 1, additional risk of small, open flame on the cover	< 300 MΩ	Yes	Not required					
2B	Same as category 2A, additional risk of smaller, open flame on the carcass	< 300 MΩ	Yes	Not required					
3A	Same as category 2A, additional risk of local heating due to friction	< 300 MΩ	Yes	Not required	A1	No	Not required	343 N	1h
3B	Same as category 3A, additional risk of small, open flame on the carcass	< 300 MΩ	Yes	Not required	A1	No	Not required	343 N	1h
4A	Same as category 1, additional risk of fire spreading caused by additional fire sources	< 300 MΩ	Not required	After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt					
4B	Same as category 4A, additional risk of local heating due to friction	< 300 MΩ	Not required	After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt	A1	No	Not required	343 N	1h
5A	Same as category 4B, additional increased risk of local heating due to friction	< 300 MΩ	Not required	After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt	A2	No	Not required	1715 N	2.5h
5B	Same as category 5A, additional risk of glowing	< 300 MΩ	Not required	After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt	A2	No	No	1715 N	2.5h
5C	Same as category 5B, additional risk when operating in a potentially combustible atmosphere	< 300 MΩ	Not required	After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt	A2	No	No	1715 N	2.5h