

Outer shell: AV 9200 – 200 g/m<sup>2</sup>

## Great value outer shell with an impressive performance

The TenCate Advance<sup>TM</sup> outer shell is a lasting fabric for firefighter turn-out gear. This lightweight fabric is engineered with predominantly para-aramid fibres to provide strength and durability. Unlike comparable meta-aramid predominant fabrics, it exhibits good strength retention and also remains flexible after exposure to heat. This fabric proves its value: it is a straightforward, affordable solution with a good level of protection and a long lifespan. Not surprisingly, this fabric is based on the most popular outer shell for firefighter turn-out gear in the United States – which is also made by TenCate. Do we need to say more?

**Great value** – Suitable for application as outer shell of turnout gear for firefighters. Complies with EN 469: 2005.

**Comfortable** – A lightweight outer shell. Helps to protect against heat stress and allows for longer working hours.

**Good thermal performance** – Exhibits good strength retention after exposure to heat as well as excellent flame resistance.

**High tear and tensile strength** – Provides solid resistance to cuts and punctures.

**Durable** – Withstands tough challenges throughout its wear life due to its robustness and strength.

**Limited chemical protection** – Protects against splashes, thanks to Hydro-Tec<sup>TM</sup> finish.

**Anti-static for explosion risk protection** – TenCate Static-Control<sup>TM</sup> is a core conductive filament yarn (complies with EN 1149-5: 2008, testmethod EN 1149-3: 2004).

**Complete system** – TenCate is able to supply all the components of the firefighters turn out gear: outer shell, moisture barrier, thermal barrier, thermal liner, reinforcement and cuffs.

These fabrics are made by TenCate Protective Fabrics, the largest supplier of FR fabrics in the world.



Technical data	TenCate Advance™	Test method
Quality	AV 9200	
Width	157 cm (+2/-1 cm)	ISO 22198: 2006
Weight	200 g/m <sup>2</sup> (± 5%)	ISO 3801:1977
Composition	para-aramid/meta-aramid/Static-Control™	
Construction	1/1 plain, ripstop	
Protection	Outer shell for turnout gear	
Available finishes	Hydro-Tec™	
PPE* requirements		
Washing symbols		
<b>Certification</b>		
	Firefighting	EN 469: 2005
	Anti-static for explosion risk	EN 1149-5: 2008, EN 1149-3: 2004
	General requirements	EN 13688: 2013

**Standard colours**



The colours above are standard colours and available with a minimum order length of 100 metres. The colours shown are a reference only.

**Optional colours**

Orange.

**Summary of results EN 469: 2005**

Property	Test method	EN 469: 2005 requirements	Results obtained	PASS/level
6.1 Flame spread	EN ISO 15025: 2002 Procedure A	ISO 14116: 2008 Index 3: No flaming to edge - No hole formation - No flaming or molten debris - Mean afterflame ≤ 2s - Afterglow not to spread	ISO 14116: 2008 Index 3 No flaming to edge - No hole formation - No flaming or molten debris - No afterflame - No afterglow	PASS**
6.4 Residual strength	EN ISO 6942: 2002 Method A at 10 kW/m <sup>2</sup>	Tensile strength (ISO 13934-1) of outer material ≥ 450N (All specimens)	Warp: 2200 N Weft: 2000 N	PASS**
6.5 Heat resistance	ISO 17493: 2000 at 180 °C	Materials shall not ignite or melt Shrinkage ± 5%	Material did not ignite or melt. Max. Shrinkage: 0.1%	PASS***
6.6 Tensile strength	EN ISO 13934-1: 1999	≥ 450 N	Warp: 2600 N Weft: 2100 N	PASS***
6.7 Tear strength	EN ISO 13937-2: 2000	≥ 25 N	Warp: 210 N Weft: 200 N	PASS***
6.8 Surface wetting	EN 24920: 1992	Spray rating ≥ 4 (based on lowest result)	Spray rating = 4	PASS**
6.9 Dimensional change	ISO 5077: 2007	Max ± 3% (= shrinkage)	< 3%	PASS**

\* Copyright symbols: NEN, Delft (Netherlands)

\*\* After pre-treatment (five wash/dry cycles according to EN ISO 6330: 2000. Procedure 2A (60°C) with tumble drying (Procedure E) (max. 70 °C outlet temperature).

\*\*\* As received

**Sunlight/UV Exposure Advisory:** Prolonged sunlight and UV exposure can be damaging to aramid fibers. Both natural (undyed) and dyed aramid fibers will fade or change color with exposure to sunlight or other UV sources. The thermal performance is not affected, but long term or repeated exposures will cause the fabric to gradually weaken. Garments should be stored so that they are protected from sunlight, including windows and bay doors, to maximize wear life. TenCate Protective Fabrics offers no warranties, implied or otherwise, for color change or fabric damage due to UV exposure.



Member of the E.T.S.A.



**TenCate Protective Fabrics**

TenCate is the world's No. 1 producer of protective fabrics for the manufacturing of safety wear. We supply garment-makers with an extensive range of top-quality and technologically advanced fabrics.

Our fabrics become lifesaving garments for firefighters, industrial workers, military personnel and other professionals working under hazardous conditions in danger zones around the world.

We work closely with our customers, end-users, fibre and chemical manufacturers and independent laboratories. As a result, TenCate Protective Fabrics is the one source the world looks to for leadership in knowledge of materials, consistent product quality, and a proven commitment to service excellence.

TenCate is a trademark of Royal Ten Cate nv. TenCate Advance is a trademark of Ten Cate Protect bv. Ten Cate Protect bv is a subsidiary of Royal Ten Cate nv.



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