

Protecting



wipe clean



breathable



waterproof



scuff resistant

Permair protector has added performance engineered to meet the more demanding excesses of the working/outdoor environment.

Permair leather protector surpasses all the requirements of the European Standard EN ISO 20344: 2012 (including hydrolysis resistance and high breathability). EN ISO 20344: 2012 is a legal requirement of safety footwear in the EU.

Permair leather protector is extensively used for footwear in

- **Industrial** - highly durable and resistant to a wide range of petrochemicals
- **Institutional** - resistant to salt and grit. Highly breathable and easy care
- **Foul weather** - inherently waterproof, cold crack resistant and highly breathable
- **Forestry** - scuff and hydrolysis resistant
- **Food industry** - resistant to water, oils and other liquid hazards
- **Dairy** - inherently waterproof and wipe clean
- **Medical** - a barrier to viral and blood borne pathogens. Blood and urine

Permair leather protector

permair[®] leather

Comparative test data

Permair leather protector v Grain and Cast Coated Leathers

Property	Test Method	Target Performance	Permair Protector Leather	Cast Coated Leather	Corrected Grain Leather
Thickness (mm)	Porvair STM001		2.21	1.68	1.6/1.8
Tear Strength (Kg)	Porvair STM150	L=	13.87	10.0	15
		X=	13.47	11.1	
Tensile Strength (Kg/cm)	Porvair STM056	L=	34.1	37.1	15
		X=	48.5	44.1	
Elongation At Break (%)	Porvair STM056	L=	38.4	38	35
		X=	54.3	47	
EN ISO 20344: 2012 WVP	EN ISO 20344 :2012	>0.8mg/cm2/hr	1.8	N/A	N/A
WVC		>20 mg/cm2	21		
Water Resistance	SATRA TM34 Maeser	>/= 100,000 cycles Waterproof	> 500,000 cycles	> 500,000 cycles	Leakage after 1,000 cycles
Hydrolysis Resistance	SATRA TM344/25	No worse than slight cracking 1 million flexes at 20°C before and after	5 million flexes No cracking	500,000 flexes severe cracking +delam	Not relevant
SATRA Vamp Flex	SATRA TM25	No worse than slight cracking Dry-1million Wet-100,000 -5°C-100,000 flexes	Dry 5 million Wet 500,000 -5°C 500,000 no cracks	Dry 3 million Wet 500,000 -5°C 400,000 cracking	Dry 500,000 Wet 100,000 -5°C 100,000 slight cracking
Martindale Abrasion	SATRA TM31 (A)	After 51,200 flex >4 = Good >5 = Excellent	4	4/5	4/5
SATRA Chisel Scuff	SATRA TM140	50 = Moderate 200 = Good 400 = Excellent	100	50	20
Qualitative Peel	SATRA TM148	No peeling from Wet/Dry Leather	No peeling	Coating peels	Not relevant

Chemical resistance data

ACETIC ACID	B	METHYLATED SPIRIT (ETHANOL)	A
ACETALDEHYDE	A	METHANOL	A
ACETONE	A	NITRIC ACID, DILUTE	B
AMMONIA	B	OIL, MINERAL	A
BENZENE	A	OIL, VEGETABLE	A
BUTANOL	A	PAINT	A
CARBON TETRACHLORIDE	A	PERCHLOROETHYLENE - sp	A
CELLUSOLVE	A	PETROL	A
CHLOROFORM	A	PETROLEUM ETHER	A
CITRIC ACID	B	PHOSPHORIC ACID	B
DETERGENTS	A	SEA WATER	A
DICHLOROMETHANE	A	SOAP	A
DIETHYL ETHER	A	SODIUM CHLORIDE SOLUTION	A
DIOCTYL PHTHALATE	A	SODIUM HYDROXIDE SOLUTION	B
ETHYL ACETATE	A	STYRENE	A
ETHYLENE GLYCOL	A	SULPHURIC ACID, DILUTE	B
FATS	A	TOLUENE	A
FORMALDEHYDE 40%	A	TURPENTINE	A
GLYCEROL	A	WHITE SPIRIT	A
HYDROCHLORIC ACID	B	XYLENE	A
KEROSENE	A		

KEY : A UNAFFECTED (SOME REVERSIBLE SWELLING MAY OCCUR WITH CERTAIN SOLVENTS)

B RESISTANT, BUT SOME DETERIORATION PROBABLE, DEPENDENT ON CONDITIONS