

PRODUCT : GRIPP SERIES SAFETY SHOE
REF. NO. : FS 05

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CONFORMING TO EN 20345:2011
& IS: 15298:2011& DGMS
PROTECTION LEVEL: S1; CATEGORY- Design A

S.NO	CLAUSE	DESCRIPTION	SPECIFICATION
1	DESIGN	CONSTRUCTION	Special Injection Molded Construction for enhanced strength.
		SEAT REGION	Closed
		HEIGHT OF UPPER	Less than 113 mm
		THREAD	Black 6 ply
		EYELET	6 nos; Aluminium Passivative
		LACES	90 CM Round Nylon Laces with Breaking Strength 55-60 kg.
		WEIGHT	Approx. 1 kg/Pair for Size – 8.
2	TOE PROTECTION	GENERAL	Toe-Caps are incorporated in such a way that they cannot be removed. Footwear is lined in the Toe Section. The lining at the edge of the toe caps extends to more than 5 mm beneath it, and more than 10 mm behind it.
		CONSTRUCTION	Made from high Carbon Steel
		INTERNAL LENGTH OF TOE CAP	Above 39mm
		IMPACT RESISTANCE	When tested at an impact energy of 200 Joules, the clearance under the toe caps at impact is Above 14.0 mm.

		COMPRESSION RESISTANCE	When tested at a compression load of 15 kN, the clearance under the toe caps at impact is Above 14.0 mm
		CORROSION RESISTANCE	Exhibits less than 2.5 mm square area of corrosion under test conditions.
3	LEATHER UPPER	CONSTRUCTION	Made from Buff Apollo Black Leather.
		THICKNESS	2.00 mm ± 0.2 mm
		TEAR STRENGTH	Above 120 N.
		TENSILE STRENGTH	Above 15 N/mm ² .
		WATER VAPOUR PERMEABILITY	Above 0.8 mg/cm ² /h
		WATER VAPOUR CO-EFFICIENCY	Above 20.0 mg/cm sq.
		WATER PENETRATION	NA
		CHROME VI CONTENT	No harmful chrome content detected
5	TONGUE	TEAR STRENGTH	NA
6	VAMP LINING	TEAR STRENGTH	Above 15 N.
		MARTINDALE ABRASION RESISTANCE	The lining does not develop holes when exposed to 25,600 dry cycles, and 12,800 wet cycles
		WATER VAPOUR PERMEABILITY	Above 2.0 mg/cm ² /h.
		WATER VAPOUR CO-EFFICIENCY	Above 30 mg/cm ² /h.
7	SHOE LINING	CONSTRUCTION	Soft Cambrel Grey inner lining
		TEAR STRENGTH	Above 15 N.
		MARTINDALE ABRASION RESISTANCE	The lining does not develop holes when exposed to 25,600 dry cycles, and 12,800 wet cycles
		WATER VAPOUR PERMEABILITY	Above 2.0 mg/cm ² /h.
		WATER VAPOUR CO-EFFICIENCY	Above 20 mg/cm ² /h.

8	INSOLE	CONSTRUCTION	Insole is incorporated in such a way that it cannot be removed.
		THICKNESS	2.0 mm.
		WATER ABSORPTION & DESORPTION	Above 35 %. Above 40 %.
		ABRASION RESISTANCE	No damage to the insole when exposed to 400 cycles.
9	INSOCK	MATERIAL & COLOUR	Soft Netlon Black + 5 mm EVA
		THICKNESS	Above 2 mm
		MARTINDALE ABRASION RESISTANCE	The lining does not develop holes when exposed to 25,600 dry cycles, and 12,800 wet cycles
10	OUTSOLE	CONSTRUCTION	Single Density Polyurethane
		COLOUR	Black
		THICKNESS	Above 6 mm
		TEAR STRENGTH	More than 6 kN/mm.
		ABRASION RESISTANCE	Volume loss is below 250 mm ³
		FLEXING RESISTANCE (30,000 CYCLES)	Cut growth is below 4 mm.
		HYDROLYSIS (150,000 CYCLES)	Cut growth is below 6 mm.
		INTERLAYER BOND STRENGTH	NA
		UPPER OUTSOLE BOND STRENGTH	Above 4 N/mm & 3N/mm in case of Leather tearing
		RESISTANCE TO FUEL OIL	Below 12%.
		CLEATED OUTSOLE	More than 45% of fore-part covered with cleats.

11	ANTISTATIC PROPERTY		After conditioning in a dry and wet atmosphere, the electrical resistance is above 100 K ohms and below 1000 M ohms
12	ENERGY ABSORPTION OF SEAT REGION		Above 20 joules.
13	ANTI SLIP PROPERTY		Co-efficient of friction is more than 0.28 for heel region & more than 0.32 for flat region
14	HEAT INSULATION OF SOLE COMPLEX		Below 22 ⁰ C. (The insulation cannot be damaged without damaging the footwear)
15	COLD INSULATION OF SOLE COMPLEX		Below 10 ⁰ C. (The insulation cannot be damaged without damaging the footwear)
16	HOT CONTACT (PU SOLE)		No damage to TPU sole when exposed to a temperature of 150 ⁰ C for 1 minute.