

KARAM
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PRODUCT	:Safety Shoe
REF. NO.	:FS 61
	02.05

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02
03/09/2010

#### As Per: EN ISO 20344:2004 IS 15298:2002

SL. No.	CLAUSE	DESCRIPTION	SPECIFICATION
1	DESIGN	Construction	Specially Injection Moulded Construction for enhanced strength.
		Seat Region	Closed
		Height of Upper	Less than 113 mm
		Thread	Nylon
		Eyelet	6 Nos. Aluminum Passivative
		Laces	Synthetic, 90 cm round, with breaking strength 55-60 kg
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 and heat treated.
		Internal Length of Toe Cap	Above 39 mm.
		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	
		Compression Resistance	When tested at a compression load of 15 kN,
		NESISLATILE	the clearance under the toe caps at impact is - Above 14.0 mm
		Corrosion Resistance of Toe Caps	Exhibits less than 2.5 mm square area of corrosion under test conditions.







CHNICAL DATA SHE ĹШ

3 LEATHER UPPER	LEATHER	Construction	Made from Buff Crazy Horse Tan Leather
	UPPER	Thickness	1.8 mm-2.20 mm ± 0.2 mm
		Tear Strength	Above 120 N.
		Tensile Strength	Above 15 N/mm <sup>2.</sup>
		Water Vapour Permeability	Above 0.8 mg/cm <sup>2</sup> /h
		Water Vapour co-efficiency	Above 20.0 mg/cm sq.
		pH Value	Above 3.5
		Chrome VI Content	No harmful chrome content detected
4	TONGUE	Tear Strength	Above 36 N.
-	VAMP	Tear Strength	Above 15 N.
	LINING	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/cm²/h.
		Water Vapour co-efficiency	Above 30 mg/cm <sup>2</sup> /h.
6	SHOE 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 <sup>2</sup> /h.
		Water Vapour co-efficiency	Above 20 mg/cm <sup>2</sup> /h.
7	INSOLE	Construction	Insole is incorporated in such a way that it can not b removed.
		Thickness	2.0 mm.
		Water Absorption and	35 %.
		Desorption	40%
		Abrasion Resistance	No damage to the insole when exposed to 400 cycles





8	INSOCK	Material & Colour	Drylex Beige Moulded on EVA
		Thickness	Above 2 mm
		Deleted	Deleted
		Abrasion Resistance	The lining does not develop holes when exposed to
			25,600 dry cycles, and 12,800 wet cycles
9	OUTSOLE	Construction	Double Density Sole TPU/PU
		Colour	Thermoplastic Polyurethane Black Outsole And Beige Polyurethane Midsole
		Thickness	Above 6 mm.
		Tear Strength	More than 5 kN/m.
		Abrasion Resistance	Volume loss is below 250 mm <sup>3</sup> .
		Flexing Resistance (30,000 cycles)	Cut growth is below 4 mm.
		Hydrolysis (150,000 cycles)	Cut growth is below 6 mm.
		Interlayer Bond Strength	Above 4 N/mm & 3N/mm in case of sole tearing
		Resistance to Fuel Oil	Below 12%.
		Cleated Outsole	More than 45% of fore-part covered with cleats.
			More than 25% of heal portion is covered with Cleats
10	ANTISTATIC PROPERTY		After conditioning in a dry and wet atmosphere, the electrical resistance is above 100 K ohms and below 1000 M ohms
11	ENERGY ABSORPTION OF SEAT REGION		Above 20 joules.
12	ANTI SLIP PROPERTY		Co-efficient of friction is more than 0.28 for heel region & more than 0.32 for flat region
13	HEAT INSULATION OF SOLE COMPLEX		Below 22 <sup>0</sup> C. (The insulation cannot be damaged without damaging the footwear)









14	COLD INSULATION OF SOLE COMPLEX	Below 10 <sup>0</sup> C. (The insulation cannot be damaged without damaging the footwear)
15	HOT CONTACT (PU SOLE)	No damage to PU sole when exposed to a temperature of 150 <sup>0</sup> C for 1 minute.



