

PRODUCT : **Safety Shoe**  
REF. NO. : **FS 20FN(FWSAM)**

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| REVISION | 00         |
| DATE     | 04/07.2020 |

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| DOC. NO. | QF/RD/05 |
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Protection Class:

**S1, CI, SRC**

| SL. No. | CLAUSE         | DESCRIPTION   | SPECIFICATION   |
|---------|----------------|---|---|
| 1       | Design         | <b>Construction</b><br><br><b>Seat Region</b><br><b>Height of Upper</b>   | Specially Injection Moulded Construction for enhanced strength.<br><br>Closed<br>Less than 113 mm.  |
| 2       | Toe Protection | <b>General</b><br><br><b>Construction</b><br><b>Internal Length of Toe Cap</b><br><b>Impact Resistance</b><br><br><b>Compression Resistance</b> | Toe-Caps are incorporated in such a way that they cannot be removed.<br>Footwear is lined in the Toe Section.<br>The lining at the edge of the toe caps extends to more than 5 mm beneath it, and more than 10 mm behind it.<br>Made from Fiber/Composite Toe<br>Above 39 mm.<br><br>When tested at an impact energy of 200 Joules, the clearance under the toe caps at impact is -<br>Above 14.0 mm.<br><br>When tested at a compression load of 15 kN, the clearance under the toe caps at impact is -<br>Above 14.0 mm |

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| 3 | Upper       | <b>Construction</b><br><b>Tear Strength</b><br><b>Water Vapour Permeability</b><br><b>Water Vapour coefficient</b><br><b>pH Value</b><br><b>Chrome VI Content</b> | <p>Made from Blue FLYNET Fabric Upper</p> <p>Above 60 N</p> <p>Above 2.0 mg/cm<sup>2</sup>/h.</p> <p>Above 20 mg/cm<sup>2</sup></p> <p>NA</p> <p>NA</p>  |
| 4 | Tongue      | <b>Tear Strength</b>  | Above 18 N   |
| 5 | Vamp Lining | <b>Tear Strength</b><br><b>Construction</b><br><b>Martindale Abrasion Resistance</b><br><b>Water Vapour Permeability</b><br><b>Water Vapour coefficient</b>       | <p>Above 15 N.</p> <p>Non-Woven Fabric</p> <p>The lining does not develop holes when exposed to 25,600 dry cycles, and 12,800 wet cycles</p> <p>Above 2.0 mg/cm<sup>2</sup>/h.</p> <p>Above 20 mg/cm<sup>2</sup></p>       |
| 6 | Shoe Lining | <b>Construction</b><br><b>Tear Strength</b><br><b>Martindale Abrasion Resistance</b><br><b>Water Vapour Permeability</b><br><b>Water Vapour coefficient</b>       | <p>Soft Red Spacer Lining</p> <p>Above 15 N.</p> <p>The lining does not develop holes when exposed to 25,600 dry cycles, and 12,800 wet cycles</p> <p>Above 2.0 mg/cm<sup>2</sup>/h.</p> <p>Above 20 mg/cm<sup>2</sup></p> |

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| 7 | Insole  | <b>Construction</b>                       | Insole is incorporated in such a way that it can not be removed.                           |
|   |         | <b>Thickness</b>                          | Minimum 2.0 mm.  |
|   |         | <b>Water Absorption and Desorption</b>    | Above 70mg/cm <sup>2</sup><br>Above 80%  |
|   |         | <b>Abrasion Resistance</b>                | No damage to the insole when exposed to 400 cycles.  |
| 8 | Insock  | <b>Material &amp; Colour</b>              | Soft Moulded In-Socks & laminated with Fabric  |
|   |         | <b>Thickness</b>                          | Above 2 mm   |
|   |         | <b>Abrasion Resistance</b>                | The lining does not develop holes when exposed to 25,600 dry cycles, and 12,800 wet cycles |
| 9 | Outsole | <b>Construction</b>                       | Single Density Polyurethane  |
|   |         | <b>Colour</b>                             | Black in Colour  |
|   |         | <b>Thickness</b>                          | Above 4 mm.  |
|   |         | <b>Tear Strength</b>                      | More than 5 kN/m.  |
|   |         | <b>Abrasion Resistance</b>                | Volume loss is below 250 mm <sup>3</sup> .   |
|   |         | <b>Flexing Resistance (30,000 cycles)</b> | Cut growth is below 4 mm.  |
|   |         | <b>Hydrolysis (150,00 cycles)</b>         | Cut growth is below 6 mm.  |
|   |         | <b>Upper to Sole Bond Strength</b>        | Above 4 N/mm   |
|   |         | <b>Resistance to Fuel Oil</b>             | Below 12%.   |

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|           |   | <b>Cleated Outsole</b> | More than 45% of fore-part covered with cleats.<br>More than 25% of heel portion is covered with Cleats.            |
| <b>10</b> | <b>Antistatic Property</b>              |                        | After conditioning in a dry and wet atmosphere, the electrical resistance is above 100 K ohms and below 1000 M ohms |
| <b>11</b> | <b>Energy Absorption of Seat Region</b> |                        | Above 20 joules.  |
| <b>12</b> | <b>Anti Slip Property</b>               |                        | Co-efficient of friction is more than 0.28 for heel region & more than 0.32 for flat region                         |
| <b>13</b> | <b>Heat insulation of sole complex</b>  |                        | Below 22° C. (The insulation cannot be damaged without damaging the footwear)                                       |
| <b>14</b> | <b>Cold insulation of sole complex</b>  |                        | Below 10° C. (The insulation cannot be damaged without damaging the footwear)                                       |
| <b>15</b> | <b>HOT CONTACT (PU SOLE)</b>            |                        | No damage to PU sole when exposed to a temperature of 120° C for 1 minute.  |