What is NFPA 70E?

Originally developed at OSHA’s request, NFPA 70E Standards for Electrical Safety in the Workplace help companies and employees avoid workplace injuries and fatalities due to shock, electrocution, arc flash, and arc blast. NFPA 70E focuses on practical safeguards to protect personnel by reducing exposure to major electrical hazards. OSHA bases its electrical safety mandates – OSHA 1910 Subpart S and OSHA 1926 Subpart K – on the comprehensive information in this important standard.*

Arc Flash Hazard PPE Categories

<table>
<thead>
<tr>
<th>Arc Flash Hazard PPE Category</th>
<th>Protective Clothing</th>
<th>Minimum Arc Rating of PPE (cal/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 layer: FR long sleeve shirt, FR pants, FR coverall, head protection, leather protectors, foot protection, eye protection, voltage rated gloves</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>1 or 2 layers: T-shirt, FR long sleeve shirt, FR pants, FR coverall, face shield, voltage rated gloves, leather protectors, foot protection, cotton underwear, eye protection, hearing protection, head protection</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>2 or 3 layers: T-shirt, FR long sleeve shirt, FR pants, FR coverall, flash hood, voltage rated gloves, leather protectors, foot protection, cotton underwear, eye protection, hearing protection, head protection</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>3 or more layers: T-shirt, FR long sleeve shirt, FR pants, FR coverall, flash hood, voltage rated gloves, leather protectors, foot protection, cotton underwear, eye protection, hearing protection, head protection</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: ohsonline.com

In the new NFPA 70E 2015 edition, the term AR or Arc Rated as it relates to Personal Protective Equipment (PPE) was introduced to help differentiate between AR and FR (Flame Resistant). The reason? ALL AR clothing is flame resistant, but not all FR clothing has an arc rating.

Transition from HRC Categories to PPE Levels

“Hazard/Risk Category” will now be referred to as “PPE Category”. The new PPE Category is no longer task based.

Elimination of HRC Level 0

HRC levels previously ranged from 0 to 4. Level 0 meant the worker was outside the arc flash boundary and no arc flash PPE was required. The new PPE Categories have eliminated level 0. However, non-melting clothing is required for tasks not included in PPE Categories 1 to 4.

80% of electrical related accidents and fatalities involving Qualified Workers are caused by arc flash/arc blast.
Changes to Coverage Requirements

Shirts must be tucked into pants. Shirts and Coveralls must be fastened at the wrist and closed at the neck.

Non-Melting Clothing Required Under AR Clothing
Non-AR garments worn underneath AR clothing must be made of all-natural, non-melting fibers.

ARC Rated Balaclava Requirements
Arc rated balaclava or hood now required where incident energy exposure is greater than 1.2 cal/cm² to 12 cal/cm² (previously 4 cal or greater). Arc rated full hood required at greater than 12 cal/cm².

Electrical shock is the second leading cause for lost time on the job (second only to burns)

Source: BLS 2011 Report – Time Away from Work

Magid offers a full line of protective clothing including Spark Guard®, Weld Pro®, Magid A.R.C.™, Magid Ultralite™, AR Defense™ base layer, Magid AR/FR and Magid 2112.

The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. nfpa.org