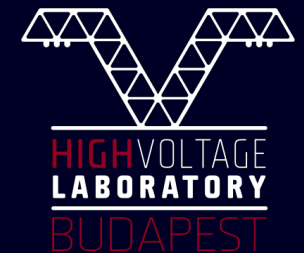


Safety of workers in construction & maintenance

Overhead Lines SC B2 – PS 3

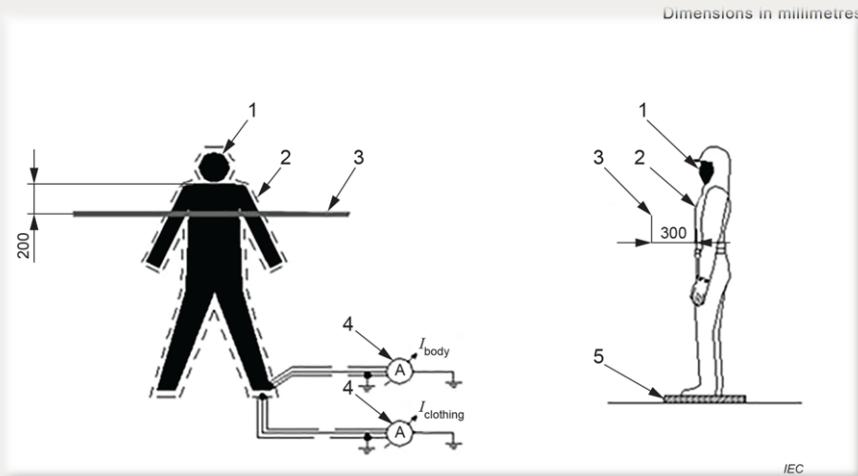
Question 3.3: What other recent innovations have been implemented or should be implemented to improve the safety of OHTL workers?

Eduardo Ramirez Bettoni - USA



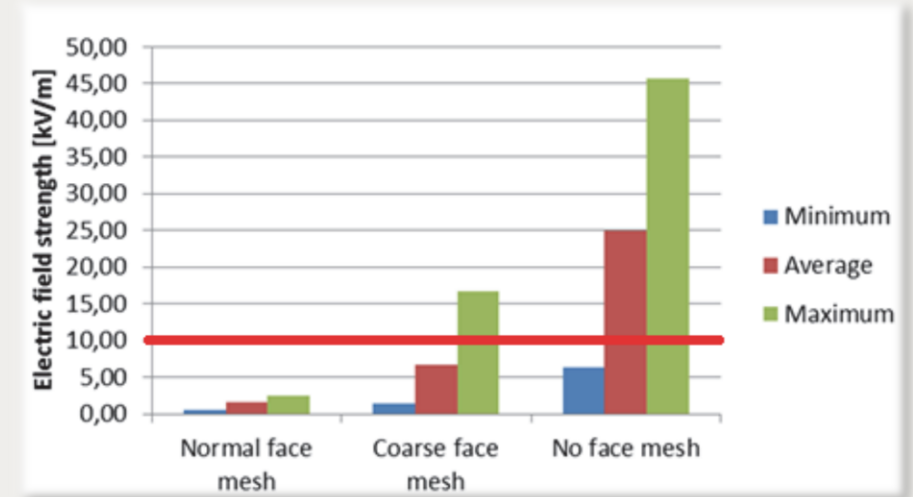
Importance of using face mesh

- Electric fields can cause health issues in the long term.
- Measurements showed that the electric field strength inside of a conductive clothing can exceed the limit set by standard.
- It is caused by faraday holes in the clothing.
- Use of face mesh helps to avoid exceeding the limit value of electric field.



source: IEC 60895:2020

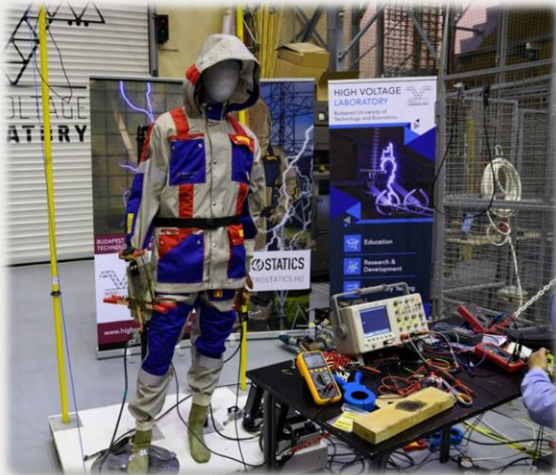
Group Discussion Meeting



- A new method for screening efficiency measurement was proposed to filter out conductive clothes without face mesh.
- A mannequin with a conductive surface in conductive clothing shall be placed in a homogenous electric field with amplitude of 100 kV/m.
- The electric field is radial in this case instead of vertical.

Vicinity work and smart live line work clothing

- New clothing was developed to protect line workers working with vicinity work (e.g.: passive side of double circuit line).
- This suit can conduct 50 A current for 30 s time interval in order to protect human against electric shock.
- It ensures that the current through the worker's body won't exceed the let go current (6 mA).
- It protects against the thermoelectric effects of the electric current.



Group Discussion Meeting

Concept and realization of smart conductive clothing:

- It can sense if all the bonding are connected on the clothing and accessories. It warns the user about bonding issues.
- Moreover, it can sense if clothing is exposed to induced current and warns for the re-examination.

