## Risk Assessment & Safe Working Practice

<table>
<thead>
<tr>
<th>RA Ref Number:</th>
<th>24</th>
<th>Revision:</th>
<th>3</th>
<th>Project/Job Number Reference</th>
<th>Insert Job Number</th>
<th>Approval Date:</th>
<th>30/03/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA Description:</td>
<td>Fibre Optic Cabling</td>
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<td></td>
<td></td>
<td>Next Review Date:</td>
<td>01/04/2019</td>
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<td>Notes:</td>
<td>Please refer to Safe Working Practices 24 for definitions of items in this assessment.</td>
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<td>Created by:</td>
<td>Lee Davies</td>
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<td>Risk Assessment Method &amp; Scoring</td>
<td>The summary risk assessment is calculated as “Likelihood” x “Consequence” and categorised as follows: 1 to 6 = Low Risk – 7 to 16 = Medium Risk – 17 to 25 = High Risk</td>
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<td>TASK</td>
<td>HAZARDS</td>
<td>PERSONS AFFECTED</td>
<td>INITIAL RISK LEVEL</td>
<td>CONTROL MEASURES</td>
<td>REvised RISK LEVEL</td>
<td></td>
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<tr>
<td>Installation of fibre-optic cabling.</td>
<td>Cuts from sharp ends of cable.</td>
<td>Engineer</td>
<td>Likelihood 4 Severity 4 Total 16 Medium Risk</td>
<td>Installation engineers are trained to install fibre optic cabling so as to minimise risks from cuts. Cable ends are taped up after being cut, and prior to installation. OR/ A fibre optic pulling sock is used to cover the cable end. Engineers are provided with suitable PPE / Gloves AC PN 5926 for hand protection.</td>
<td>Likelihood 1 Severity 4 Total 4 Low Risk</td>
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<tr>
<td>Termination of fibre-optic cabling.</td>
<td>Eye injury from flying glass.</td>
<td>Engineer / Passers by.</td>
<td>Likelihood 4 Severity 4 Total 16 Medium Risk</td>
<td>Engineers are trained to cut / strip fibre-optic cabling to reduce the risks of flying particles. Engineers are supplied with suitable PPE for the task / Gloves AC PN 5936 / Eye goggles AC PN 5931,5932. Engineers are provided with, and use a sharps container in which to place stripped cable ends. Engineers are trained to dispose of off cuts and sharps in line with CDI Environmental policy (Ref EMSP 2/1-01).</td>
<td>Likelihood 1 Severity 4 Total 4 Low Risk</td>
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<td>Termination of fibre-optic cabling.</td>
<td>Isopropanol Alcohol used for cleaning.</td>
<td>Engineer / Passers by.</td>
<td>Likelihood 4 Severity 4 Total 16 Medium Risk</td>
<td>Only trained fibre optic termination engineers use Isopropanol Alcohol. Seek immediate medical attention on exposure to these levels. Call 999 and tell the operator that exposure to this substance has occurred. Very small amounts of IA are used to clean fibre optic elements. PPE Gloves to EN3444 Parkers 1030015989 (size dependant part no). Place cleaning cloths in a sealed jar straight after use. In open well-ventilated areas, where small amounts of IA are used, no mask is required. However if any quantity over 1 – 2 ml on a wiping cloth is required always ensure that adequate ventilation is available in the areas where IA is to be used. Use vent fans if required (HSS 56851) and provide engineers with the correct masks for the task. HSS 34055 Full face respirator gives maximum protection with P3 Filter.</td>
<td>Likelihood 1 Severity 4 Total 4 Low Risk</td>
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<td><strong>Inhalation:</strong> Exposure to 400ppm causes headaches, irritation, dizziness, weakness, nausea, and asphyxiation. <strong>Ingestion:</strong> Causes nausea, vomiting, diarrhoea, gastrointestinal irritation. <strong>Eye contact:</strong> Causes irritation, redness, blurred sight. <strong>Skin Contact:</strong> Causes irritation defatting of skin, dermatitis.</td>
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RA Number: 24 - Issue Revision: 3
Safe Working Practice: 24 – Fibre Optic Cabling

1 PURPOSE: The purpose of this guide is to highlight safe working practices for: Fibre Optic Cabling.

THIS INSTRUCTION MUST NOT BE TREATED AS A SUBSTITUTE FOR TRAINING

All persons INSTALLING FIBRE OPTIC CABLES must receive appropriate training

2 PROTECTIVE CLOTHING AND EQUIPMENT

Operators must wear

- Safety Boots/Shoes incorporating steel toe-caps
- CDI issued work wear
- Gloves as per Risk Assessment
- Eye Protection as per Risk Assessment.

3 BEFORE WORK

- Fibre-optic cabling is made up of several strands (elements) of finely drawn glass through which light is passed by a laser to a binary encoded pattern. The glass itself is very fine, and no larger than a human hair, what you see and handle is mostly the protection around the elements.
- For an external installation steel tape armoured cable is used, to provide mechanical protection for the cabling elements. For an internal installation an internal, or internal / external cable is used. This may look like electrical cable, but if not handled correctly will easily become damaged, or will injure a person working with it.

4 DURING WORK

- Never bend the cable at a rate more than 6 times it’s external diameter.
- Never allow a knot in the cable to form, or be pulled tight.
- Never let a cable become wrapped around another cable, or a pipe, conduit, or anything that will cause it to wrap tightly around itself.
- Never allow a cable to be stepped on, a footprint could bend a cable over a curb stone for example, and cause the glass to shatter.
- Never let a vehicle drive over the cable, although there may be no external sign of damage, the glass inside can be shattered.
- Extra labour will be required to ensure that loops of cable left while manhole covers / floor tiles etc are lifted do not get walked / driven over. Always use barriers and cones to mark out a cable loop on the floor. Never leave a loop of cable unprotected.
- Should the open end of the cable become exposed do not handle it. Wrap the end completely in protective film / tape before work continues. The end of the cable is VERY sharp.
- Never handle the ends of fibre optic cable without heavy duty gloves.
- When cutting a fibre optic cable you must use the following method;
- Use a hacksaw to cut around the sheathing armour only, never saw straight through a cable.
➢ Once the armour is cut with a hacksaw, use very sharp side cutters to cut through the Kevlar and the elements themselves. Use the tip of the cutter to nibble at the cable until the Kevlar parts, pull it apart, then cut the fibre elements in one, holding the cable firmly, and away from the body. Any off cuts must be stored in a sharps box straight away, never leave off cuts lying around as they are VERY sharp.
➢ You must wear heavy-duty PVC gloves and eye protection goggles to do this, sawing through a cable will result in flying glass splinters, these are so fine that medical eye examination equipment cannot easily detect them.
➢ Within the terminating process there will be a requirement for the use of Isopropyl Alcohol.
➢ Isopropyl Alcohol is a hazardous substance and as such, its storage and usage should comply with COSHH Regulations. See appendix B.
➢ To ensure compliance the following will apply:
➢ Isopropyl Alcohol will be stored/transported to site in a stainless steel vacuum flask, labelled “Inflammable Liquid 3”
➢ The customer/client must be informed before taking onto site.
➢ Before commencement of work the following significant risks must be considered:
➢ Only the minimum amount required (typically 100m/litres) will be taken onto site, for the duration of the process only.

5 AFTER WORK

➢ Glass fragmentation generated as a result of the process must be removed from site using a “Sharps Container” and disposed of appropriately.

➢ See Appendix A (COSHH Assessment)

CDI GROUP LTD PLACES GREAT IMPORTANCE ON EVERYONE'S SAFETY:

FAILURE TO COMPLY WITH ANY OF THE ABOVE MAY RESULT IN DISCIPLINARY ACTION