

# How to Choose the Right Medium-Voltage Cable Joint

*A practical selection guide for reliable and future-proof cable connections, delivered by Lovink Enertech.*

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## 1. Introduction

Selecting the right cable joint is essential for the long-term reliability of medium-voltage networks.

Cable joints are often the most critical point in the network, especially in environments with:

- High groundwater levels
- Contaminated soil
- Thermal and electrical stress

Lovink Enertech develops cable jointing solutions designed for:

- Long service life (40+ years)
- Consistent performance in harsh conditions
- Simple and safe installation
- Readiness for future grid requirements such as renewable energy integration [[lovink-enertech.com/Renewable-Energy-Joints](https://lovink-enertech.com/Renewable-Energy-Joints)]

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## 2. Quick Selection Overview

Situation / application	Recommended solution	Why
Connecting polymeric cables (XLPE / EPR)	Lovix® straight joint	Strong, waterproof, fast installation
Connecting polymeric to paper cables (PILC)	Lovisil® transition joint	Prevents ageing and drying of paper insulation
Creating a branch in the network	Lovisil® branch joint	Eliminates the need for extra joints
Wet or flooded environments	Lovisil® technology	Moisture-resistant, tested for water pressure
Repairing existing cables	Lovisil® repair joint	Extends asset lifetime
Complex grids (renewables, harmonics)	Lovisil® technology	Minimizes partial discharge
High mechanical-load environments	Lovix® straight joint	Strong mechanical protection
High reliability requirements	Lovisil® or Lovix®	Very low failure rate

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## 3. Selection by Application

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## 3.1 Straight Connections (Extension or Replacement)

### Use when:

- Extending an existing cable
- Connecting two cables in a straight line

### Recommended solution:

[View Lovix® straight joints](#)

### Why:

- Designed for polymeric cables (XLPE / EPR)
- High mechanical strength and waterproofing
- Fast and safe installation without open flame [[lovink-enertech.com other challenges](#)]

**Core value:** Robust, reliable and fast installation for modern grids.

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## 3.2 Transition Between Cable Types (PILC to XLPE)

### Use when:

- Upgrading an existing network
- Connecting paper-insulated cables to polymeric cables

### Recommended solution:

[View Lovisil® transition joints](#)

### Why:

- Prevents drying of paper insulation
- Supports long-term preservation of existing infrastructure
- Suitable for harsh environmental conditions [[lovink-enertech.com other challenges](#)]

**Core value:** Safe transition between old and new infrastructure.

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## 3.3 Branching and Network Splitting

### Use when:

- Creating a side connection (for example for an industrial or renewable project)
- Splitting an existing cable route

### Recommended solution:

[Explore Lovink product range](#)

### Why:

- Allows direct branching without additional joints
- Compatible with polymeric and paper cables
- Reduces excavation and installation time

**Core value:** Efficient branching with fewer components.

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## 3.4 Wet, Flooded or High-Groundwater Environments

### Use when:

- Installations in wet soil or flooded trenches
- Areas with high groundwater levels

- Coastal or industrial zones

**Recommended solution:**

[Lovisil® Branch cable joints](#)

**Why:**

- Liquid silicone insulation prevents moisture ingress
- Tested under water pressure (up to 2 bar)
- Reliable performance in extreme environments

**Core value:** Maximum reliability under wet conditions.

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### 3.5 Repair and Asset Life Extension

**Use when:**

- Cable damage has occurred
- Ageing infrastructure needs extension

**Recommended solution:**

[View Lovink Repair Joints product range](#)

**Why:**

- Extends lifetime of existing assets
- Avoids full cable replacement
- Supports both PILC and polymeric cables

**Core value:** Cost-effective life extension.

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### 3.6 Renewable Energy and Complex Grids

**Use when:**

- Solar or wind park connections
- Networks with harmonics and bidirectional energy flow

**Recommended solution:**

[Lovisil® technology](#)

**Why:**

- Liquid silicone fills all voids
- Reduces risk of partial discharge
- Handles thermal and electrical stress [[lovink-enertech.com](#)]

**Core value:** Prepared for future energy systems.

Check out our dedicated page : [[Joints for Renewable Energy](#)]

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## 4. Technology Comparison

There are three main cable joint technologies:

Technology	Characteristics	Limitation
Heat shrink	Traditional method	Sensitive to installation errors
Cold shrink	Easier installation	Limited adaptability
Liquid silicone	Fills cavities and helps prevent discharge	Premium solution

**More on choosing the right cable joint** [[MV cable jointing kits \(11kV / 33kV\)](#)]

**Lovink solution:**

- Liquid silicone insulation adapts to cable geometry
  - Eliminates air gaps
  - Ensures long-term performance under stress <https://www.lovink-enertech.com/en/news/how-do-you-choose-the-right-medium-voltage-cable-joint/>
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## 5. Selection Checklist

Use the following criteria when selecting a cable joint:

- **Cable type** (XLPE, EPR, PILC)
  - **Connection type** (straight, transition, branch)
  - **Environmental conditions** (wet, dry, industrial)
  - **Mechanical load requirements**
  - **Grid complexity** (renewables, harmonics)
  - **Installation constraints** (speed, safety, accessibility)
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## 6. Conclusion

The correct cable joint selection directly impacts:

- Network reliability
- Operational costs
- Lifetime of assets

Selecting the right solution ensures a **stable, safe and future-proof energy network.**

**Explore all solutions:**

[View all Lovink products](#)