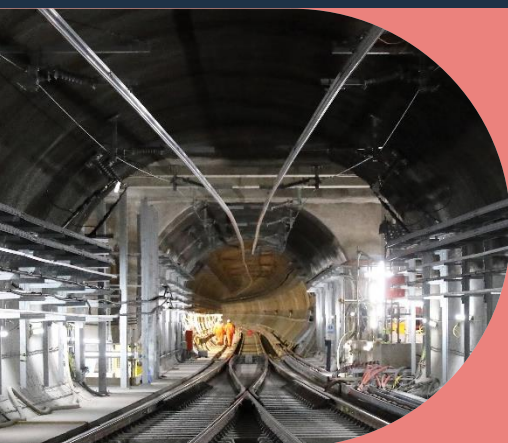


ELECTRIFICATION INFRASTRUCTURE SOLUTION
RIGID OVERHEAD CATENARY SYSTEM
 HIGH-PERFORMANCE FEEDING SYSTEM
 FOR URBAN AND MAIN-LINE RAIL TRANSPORT



Alstom's in-house designed Rigid Overhead Catenary System (ROCS) offers a competitive alternative to conventional flexible catenary systems. ROCS is especially suitable for areas requiring a low encumbrance feeding system. It is currently used for a wide range of applications, including urban & main-line rail transport.

HIGHLIGHTS

Key benefits

- Up to 80% less components versus conventional flexible catenary
- Safer installation & maintenance
- Quick maintenance: any component replaceable in less than 2 hours
- High fire resistance
- High reliability
- TSI compliant ROCS references
- Independent-body system verification campaign

Main projects worldwide:

- London Crossrail (GB), 25 kV_{AC}
- Paris L15 (FR), 1,5 kV_{DC}
- Paris T5 (FR), 750 V_{DC}
- Valenciennes (FR), 25 kV_{AC}
- Pune metro (IN), 25 kV_{AC}
- Madrid (ES), 25 kV_{AC}
- Lusail (QA), 750 V_{DC}
- Mestre (IT), 25kV_{AC}
- Lavis (IT), 3kV_{DC}
- Ciampino – Albano (IT), 3kV_{DC}

GENERAL DESCRIPTION

Alstom's Rigid Overhead Catenary System (ROCS) is a reliable and cost-effective alternative to conventional overhead contact lines, and especially in the cases where space constraints are present. Typical applications include the retrofit of older tunnels, newly-built small-diameter tunnels (reduced cost of civil works), and depots. The ROCS contact line is composed of an extruded aluminium conductor profile with a copper contact wire clamped on the underside (in contact with the pantograph). Supports are specially designed in accordance with the line voltage and the surrounding infrastructure.

CUSTOMER BENEFITS

Easy installation and maintenance

With ROCS, the contact wire is not at mechanical tension. Thereby reducing the operators' risk, eliminating mechanical tension monitoring and additional loads on supports due to tensioning equipment. This leads to safer, easier and faster replacement of any of the ROCS components and streamlined cost-effective maintenance.

High performance

Compared to conventional flexible catenary, Alstom's ROCS is a more compact solution with reduced number of components and feeders. It offers a stable interface between the pantograph and the contact wire with minimum uplift. Other benefits include higher fire resistance and improved RAMS performance.

Easy integration

ROCS allows for easy extension, conversion, upgrade or replacement of existing lines, and thanks to the reduced number and variety of components, it offers high interchangeability.

Suitable for different applications

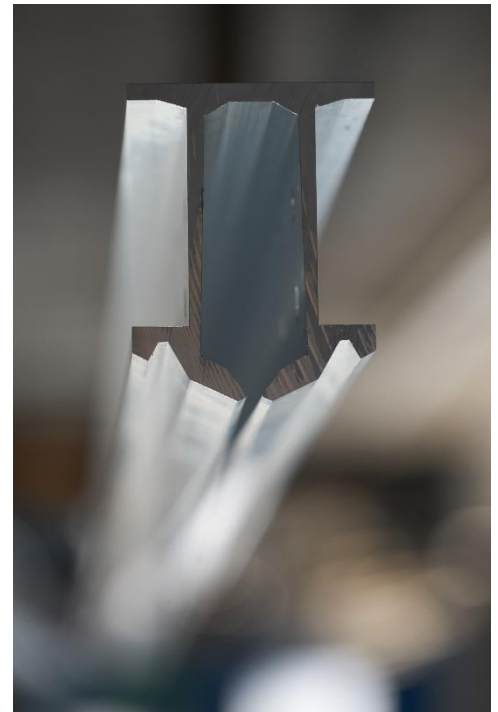
With minor adjustments, the same product can be used with various feeding voltages, from 750 V_{DC} urban light rail and metro applications to 25 kV_{AC} railways, covering a wide range of operation speeds. For high-speed lines, a specialised supporting arrangement exists.

RIGID OVERHEAD CATENARY SYSTEM

TECHNICAL INFORMATION

The following main components can be supplied (*):

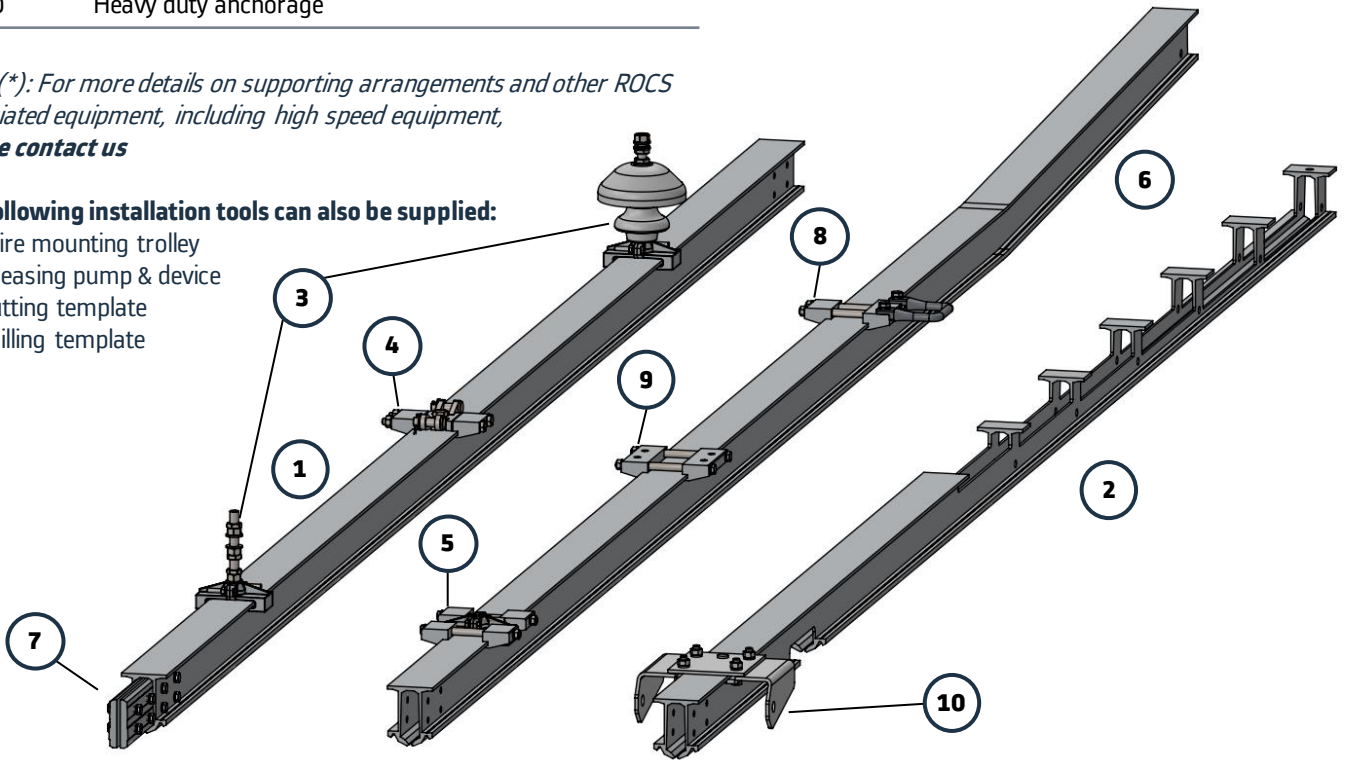
Item no.	Components
1	Rigid bar
2	Transition element
3	Hanger clamp
4	Midpoint clamp
5	Blocking clamp
6	Ramp
7	Splice
8	Earth connector
9	Power feed block
10	Heavy duty anchorage



Note (): For more details on supporting arrangements and other ROCS associated equipment, including high speed equipment, please contact us*

The following installation tools can also be supplied:

- Wire mounting trolley
- Greasing pump & device
- Cutting template
- Drilling template



FOR MORE INFORMATION:

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