

CENTAUR INTERMEDIATE STRAP

Aluminium HV Cable Strap

- Intermediate strap maintains cable phase spacing during normal and short circuit conditions in between cleats.
- 6000 series aluminium frame with A4 stainless steel closure fixings (insulated with polymeric top hat washers).
- LSF polymeric liner to cushion cables.
- Adjustable tooling allows for a wide range of cable OD's (typically $\text{\O}100\text{-}\text{\O}162\text{mm}$) and phase spacings ($>300\text{mm}$).
- Each cable clamp can pivot about the bar to cable accomodating for slight cable movement, alternatively, fixed bars can be offered on request.
- **Short circuit tested to IEC 61914.**
- *Material data sheets, engineering drawings and test reports available on request.*

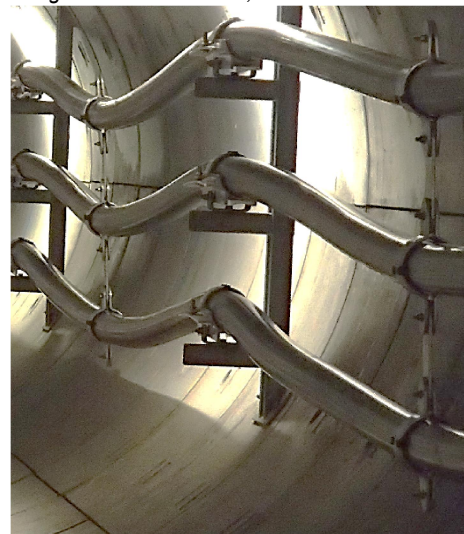
Intermediate straps are typically used for 275kV - 400kV HV cable installations. They are designed to maintain the required phase spacing of cables for normal operating conditons (i.e. thermo-mechanical effects) and during short circuits.

Typically the straps have been used alongside the Ellis Centaur® cleat on large projects such as the London Power Tunnels, as detailed to the right. Nevertheless, Intermediate straps are can be offered as a stand alone product.

Intermediate straps can be offered for various combinations of phase spacings and cable diameters. For dimensions of straps and feedback for bespoke requirements (see below) please refer to Ellis for engineering drawings.



Typical Installation, photo taken at a short circuit testing event at Kema Lab, Arnhem NL.



Balfour Beatty - Power Transmission and Distribution on the London Power Tunnels





Testing Summary

Centaur Intermediate Straps have been tested in line with the International Standard of 'Cable Cleats for Electrical Installations' IEC 61914:2016. Please note that some testing predates 2016, but still conforms to the standard, typical results are detailed below:

Property	IEC 61914 Classification Clause	Units / Classification	Test Data
Cleat Type	6.1, 6.1.3	Composite	-
Temperature for Permanent Application	6.2	°C	-40 - 60
UV Resistance	6.5.1	-	Metallic frame shields polymer components.
Corrosion Resistance	11.2.1, 11.2.2	-	Refer to Ellis for corrosion performance details.
Impact Resistance	6.3, 6.3.5, 9.2	Very Heavy (5kg @ 400mm)	Pass
Needle Flame Test	10.0, 10.3	Application Time >30 seconds	Pass
Axial Load Test	9.4	Newtons (N)	N/A <i>(Strap, not attached to a mounting structure)</i>
Lateral Load Test	9.3	Newtons (N)	N/A <i>(Strap, not attached to a mounting structure)</i>
Resistance to Electromechanical Force (undertaken at KEMA Laboratories)	6.4, 6.4.3, 9.5	800mm cable phase spacing and Centaur cleats @ 8.4m with straps at midpoints	163kA peak (Report No. KEMA 313-08) Force per strap = 22,500N

