

SWCT Technical Information

Electrical Continuity

Marco Cable Management engaged the services of York EMC, part of The University of York, to measure the resistance of Steel Wire Cable Tray and a cable tray coupler.

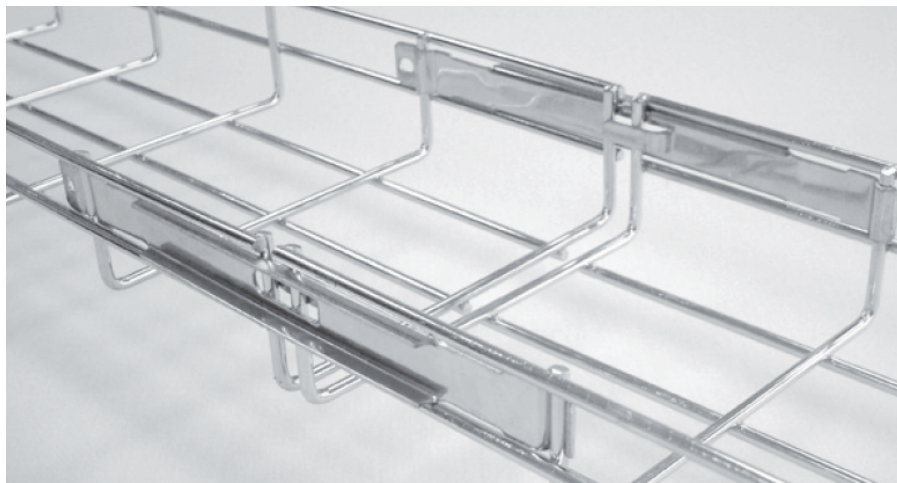
The resistance tests were in comparison with requirements EN537:2007 clause 11.1, electrical continuity [1].

An electric current was passed through the system in order to measure the resistance of the coupler. The lower the resistance, the better the electrical continuity.

The maximum cable tray impedance per metre is set at $5\text{m}\Omega$, while the value recorded using Marco Steel Wire Cable Tray is $1.3\text{m}\Omega$, over 3 times more effective than the requirement specified.

Under the requirements of the standard, couplers must have a maximum resistance of $50\text{m}\Omega$. On average, Marco Cable Management couplers were found to have a resistance of $0.44\text{m}\Omega$, over 100 times more effective than the specified requirement.

The Steel Wire Cable Tray and Coupler exceeded the requirements of the EN 61537:2007 standard for the electrical continuity clause 11.1.

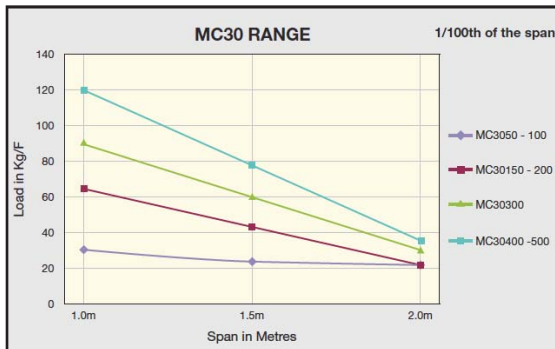


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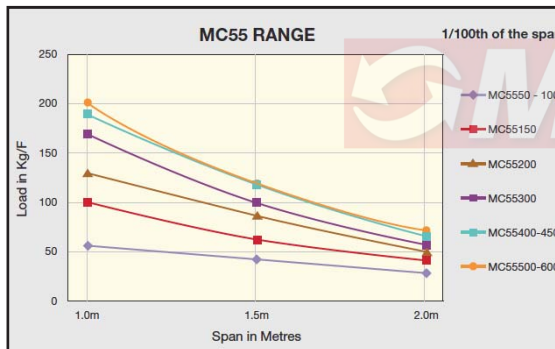
Permissible Loads

Permissible loads for a maximum deflection of 1/100th of the span, with coupling positioned at 1/5th of the span from the support. The coefficient applied to the load for coupling in the middle of the span = 0.7

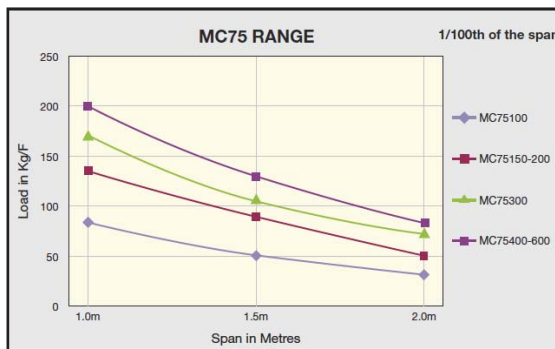
Permissible load for maximum sag = $L/100$ on the intermediate span, coupling at 1/5th of the span.



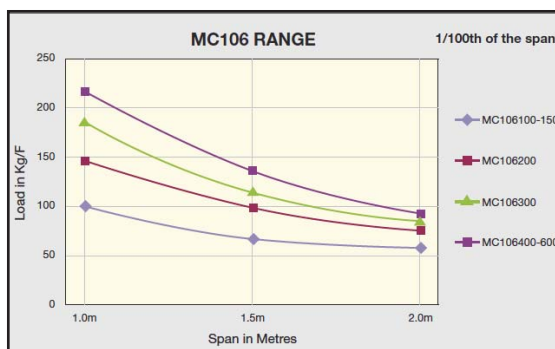
MC30		
Code No	Size	Finish
MC3050	30mm x 50mm	EZ & HDG
MC30100	30mm x 100mm	EZ & HDG
MC30150	30mm x 150mm	EZ & HDG
MC30200	30mm x 200mm	EZ & HDG
MC30300	30mm x 300mm	EZ & HDG
MC30400	30mm x 400mm	EZ & HDG
MC30450	30mm x 450mm	EZ & HDG
MC30500	30mm x 500mm	EZ & HDG



MC55		
Code No	Size	Finish
MC5550	55mm x 50mm	EZ & HDG
MC55100	55mm x 100mm	EZ & HDG
MC55150	55mm x 150mm	EZ & HDG
MC55200	55mm x 200mm	EZ & HDG
MC55300	55mm x 300mm	EZ & HDG
MC55400	55mm x 400mm	EZ & HDG
MC55450	55mm x 450mm	EZ & HDG
MC55500	55mm x 500mm	EZ & HDG
MC55600	55mm x 600mm	EZ & HDG



MC75		
Code No	Size	Finish
MC75100	75mm x 100mm	EZ & HDG
MC75150	75mm x 150mm	EZ & HDG
MC75200	75mm x 200mm	EZ & HDG
MC75300	75mm x 300mm	EZ & HDG
MC75400	75mm x 400mm	EZ & HDG
MC75450	75mm x 450mm	EZ & HDG
MC75500	75mm x 500mm	EZ & HDG
MC75600	75mm x 600mm	EZ & HDG



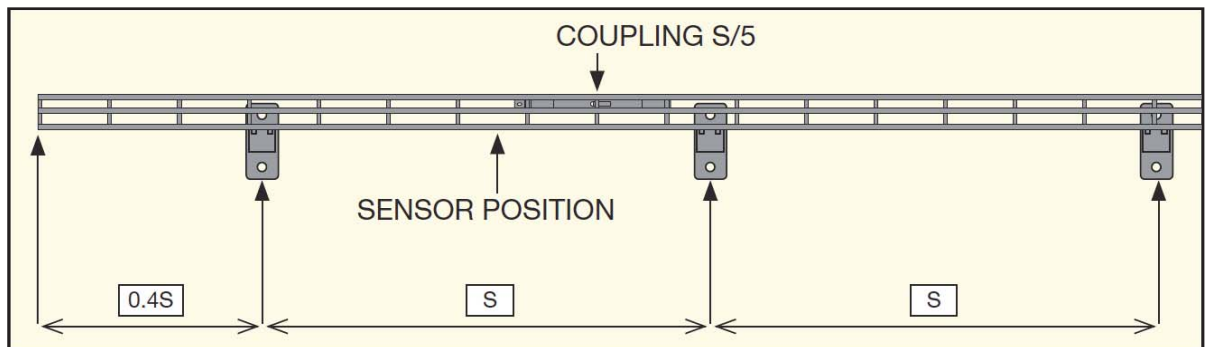
MC106		
Code No	Size	Finish
MC106100	106mm x 100mm	EZ & HDG
MC106150	106mm x 150mm	EZ & HDG
MC106200	106mm x 200mm	EZ & HDG
MC106300	106mm x 300mm	EZ & HDG
MC106400	106mm x 400mm	EZ & HDG
MC106450	106mm x 450mm	EZ & HDG
MC106500	106mm x 500mm	EZ & HDG
MC106600	106mm x 600mm	EZ & HDG

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Safe Working Loads

The cable trays were tested across two spans and a cantilever. The deflection is measured on the central span using three sensors placed on the sides and at the centre to the tray.

The test method conforms to the BSEN 61537 standard.



Note: The maximum deflection of $1/100$ is always reached for a lesser load than that of the safety load. (The breaking point divided by a safety co-efficient of 1.7).
CEI/61537

