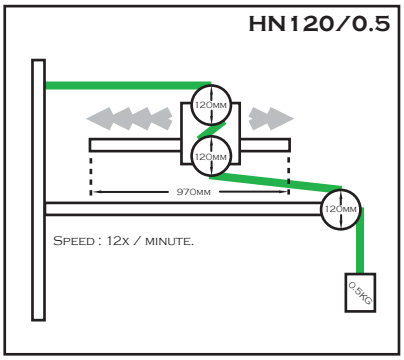
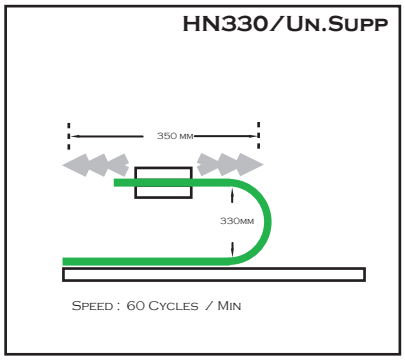
Chain- Robot Cable Complience Test Conditions

TERMINOLOGY

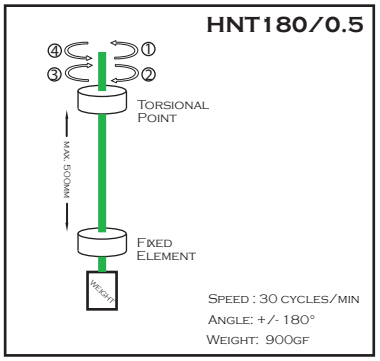
There is no standardisation of the terms "Chain Cable", "Hi-Flex Cable" or "Robot Cable", allowing each manufacturer to establish their own testing methods and thresholds.

FLEX TEST TYPES





TORSIONAL TEST



TEST METHOD CONSIDERATIONS

Alysium-Tech position, is that we utilise testing methods that best reflect customer applications, specifically flexing cable carriers, which includes multiple cables. "HN120/0.5" is significantly more suited to reflecting such a condition than tic toc testing, or lateral lift testing methods (which achieve significantly higher cycle counts, but are less relevant).

PASS / FAIL CONDITION

To achieve higher headline figures, it is common that FAIL condition is conductor open circuit, ie breakage. Alysium-Tech establishes FAIL condition as an set % increase in attenuation, thereby mirroring application requirements.

RELEVANCE OF RESULTS

Unfortunately, extrapolation of results is extremely inaccurate. If HN120/0.5 result is 3kk cycles with 60mm bending radius, we cannot expect 3.5kk cycles with 70mm radius (increase of ~16%). Subsequently, we do not carry out destructive testing, rather we establish a given threshold and Flex Rating to establish a minimum level to qualify as Chain or Robot Cable.

"Chain Cable"
- Flex Rating *Moderate* 1kk cycles
- Flex Rating *Extreme* 10kk cycles

"Robot Cable", includes torsional loading of cable to "HNT180/0.5"
- Flex Rating *Moderate* 1kk cycles

COLLABORATION OF RESULTS

Is a service that we can provide. If your application has a defined flex requirement, we can compare (and re-run, where necessary) flex testing data to ensure the test specification is best suited to your application.

ALYSIUM