

Various test methods

The reliability of cables that are constantly moved is substantiated with service tests, carried out in their practical conditions of use.

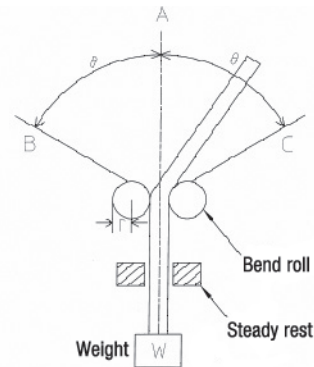
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|-------------------|---|
| Test items | <ul style="list-style-type: none"> • Bend test • Rolling bend test • Torsional test • Traveling flex test • Cable bear bend test |
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Bend test

Objective
To examine to what extent a cable can withstand flexing back and forth.

Testing method
Set the angle, speed, roll radius and load, and bend the cable back and forth.

Judging method
Based on the number of bend cycles at which the cable's conductors completely break.

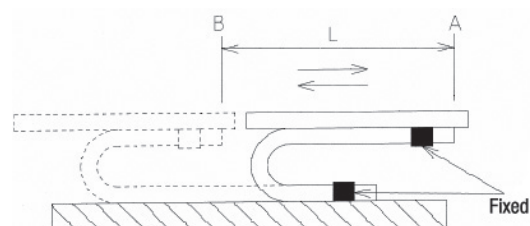


Rolling bend test

Objective
To examine to what extent a cable can withstand rolling bend (in the U-shape).

Testing method
Set the speed and the amount of bend, and roll the cable (in the U-shape) repeatedly.

Judging method
Based on the number of bend cycles at which the cable's conductors completely break.

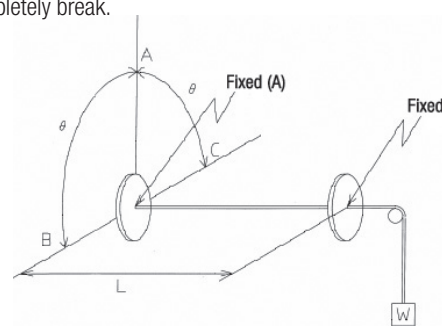


Torsional test

Objective
To examine to what extent a cable can withstand torsional flex.

Testing method
Set the length and load, and twist the cable by 90 degrees to right and left.

Judging method
Based on the number of twist cycles at which the cable's conductors completely break.

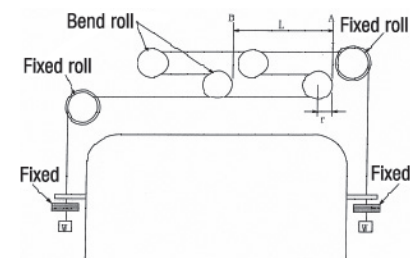


Traveling flex test

Objective
To examine to what extent a cable can withstand traveling flexes.

Testing method
Set the roll radius and load, and bend the cable back and forth.

Judging method
* Based on the number of bend cycles at which the cable's conductors completely break, or at which the cable develops a kink, twist, etc.
* Based on whether the cable's conductors are in short circuit, or whether there are abnormal signs on the insulator / sheath.

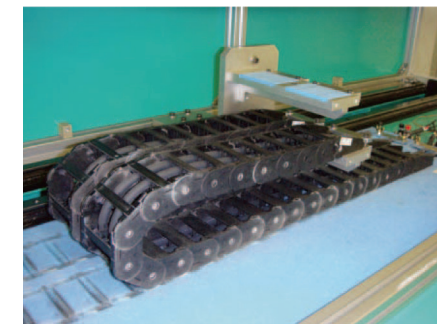
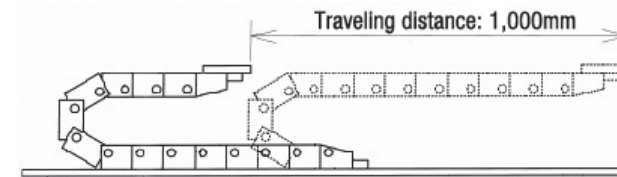


Cable bear flex test

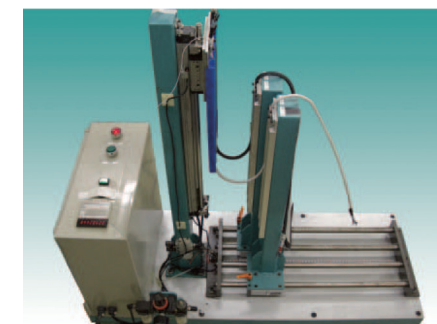
Objective
To examine flex durability in a condition similar to practical implementation for robotic cables (FA cables), etc.

Testing method
Fit the cable in a cable bear and put it to traveling flex.

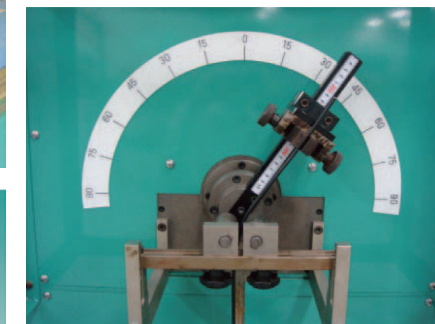
Judging method
Based on the number of bend cycles at which the cable's conductors completely break.



Cable bear flex test



Rolling bend test



Bend test

Flame test

Vertical flame test
Apply a flame to a vertically-positioned cable five times at a 15-second interval.

Applicable safety standards
UL 758, UL 1581 (UL VW-1)
CSA C22.2 No. 0.3 (CSA FT1)

Judging criteria
Cable not burning for more than 60 seconds after each flame exposure or label flag not burning at more than 25%.
Cotton fabric laid at the base not catching fire from cinders (other than FT1).

