



底盘电线弯曲耐久解析 (EPB・EMB线束等)

Development of cables to be routed near automobile wheels
using bending durability simulation
EPB: Electric Parking Brake harness
EMB: Electric Mechanical Brake harness

通过电线弯曲耐久解析技术，根据客户需求可设计开发各类
底盘线束产品(WSS+EPB、EMB、IWM等)

A variety of unsprung harness products (WSS+EPB, EMB, IWM, etc.) tailored to customers' needs
have been developed, using advanced bending simulation and bending durability prediction.



概要

- ✓ 根据客户・车型的不同可预测不同条件下的电线弯曲耐久寿命
It is possible to predict the cable bending fatigue life based various conditions depending on customers and vehicle models.
- ✓ 通过本公司自制的电线，可根据不同条件进行设计以兼顾产品的高性价比
By using in-house cable , Optimal cable design for each condition enables both reliability and cost
- ✓ 通过解析技术可避免多次耐久试验从而缩短试验周期
Shorter lead times by eliminating rework of endurance tests that take a long time

产品应用
底盘/悬架
Chassis/Suspension

电子驻车制动线束
电子制动线束
轮毂电机用线束等

Electric Parking Brake harness.
Electric Mechanical Brake harness.
In-Wheel Motor harness ,etc.

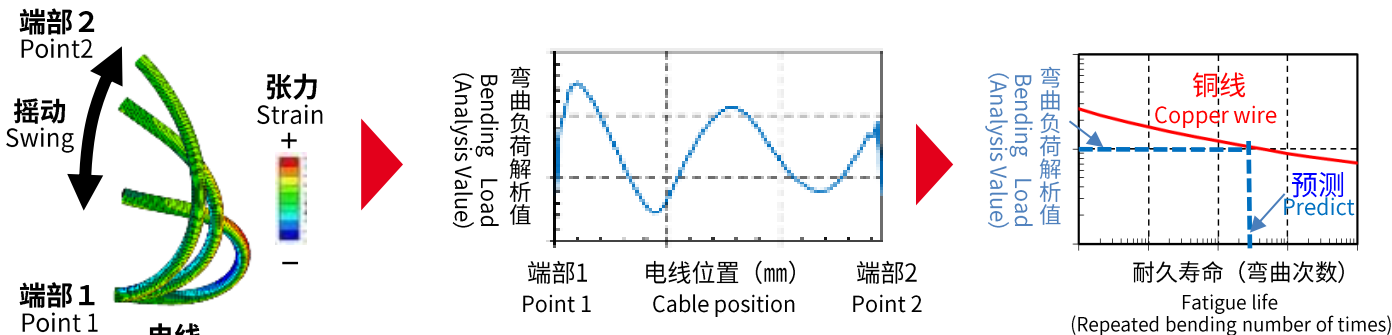


图1 实车摇动条件下电线耐久预测解析概要

Fig.1 Overview of cable fatigue prediction analysis flow under actual vehicle conditions.

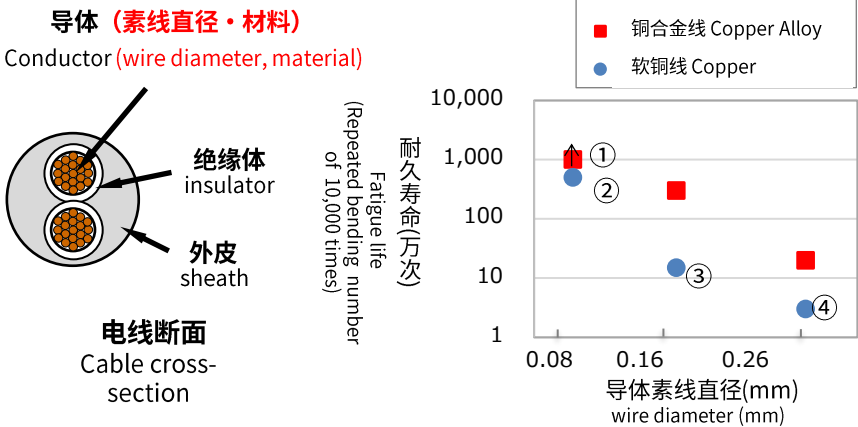


图2 各类导体耐久寿命预测示例

Fig.2 Example of fatigue life prediction for various conductors

表 1.各规格耐久寿命和成本示例

Table 1: Examples of fatigue life and cost t for each specification

素线规格 element wire spec	耐久寿命 Fatigue life	低成本顺序 Rank from Lowest to highest of cost
① 铜合金线 Copper Alloy φ0.08mm	1000万次以上 More than 10 million times	4
② 软铜线 Copper φ0.08mm	500万次 5 million times	3
③ 软铜线 Copper φ0.16mm	15万次 150,000 times	2
④ 软铜线 Copper φ0.26mm	3万次 30,000 times	1