

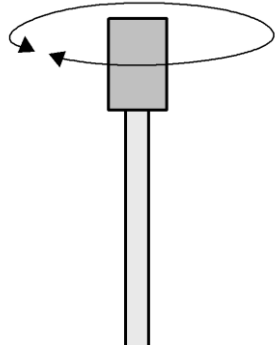
Maeden's Tech on Auto Application

The image shows a coiled white cable on a light surface. A blue oval logo with the word 'maeden' in white script is overlaid on the cable. The cable has a braided outer sheath and a white connector at the end.

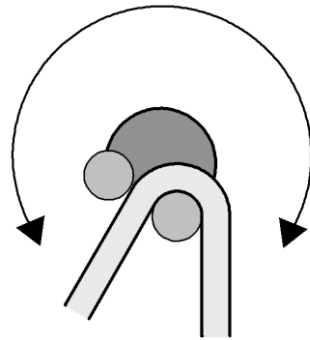
maeden

WHY MAEDEN CONDUCTORS?

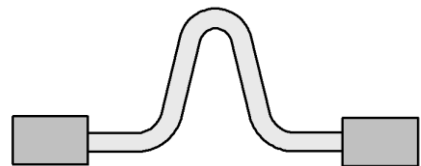
Maeden is capable of customizing the conductor which is tough against the force from **360° direction in 3D Dimension with high temperature and environmental differences endurance.**



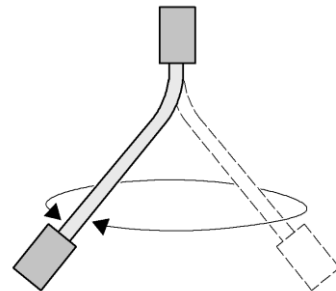
TWISTING



BENDING



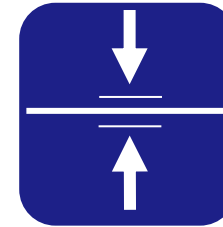
PUSHING



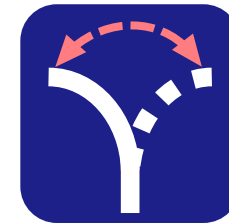
CIRCLING



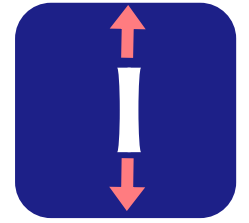
PULLING



Ultra-Fine Wire



Excellent Bending Resistance



High Tensile Strength



Excellent Flexibility



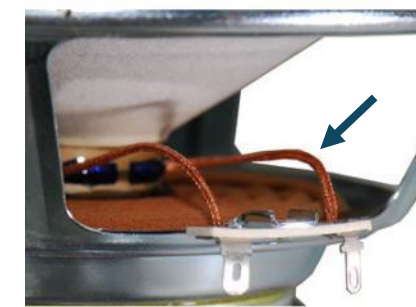
High Temp. Resistance



Soldering

- 1) Lead wire in loudspeakers(Auto Speaker)
- 2) Shielding tube for dashboard
- 3) Seal Strip Sensor
- 4) Parking Sensor
- 5) Emergency Siren

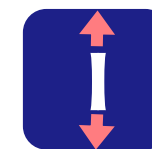
1) LEAD WIRE IN LOUDSPEAKERS



Can't Jump + Can't Break



Bending



Pulling



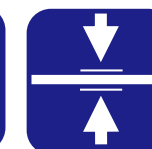
Temperature



Soldering



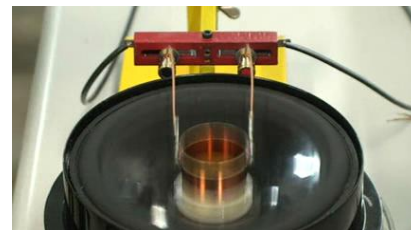
DCR



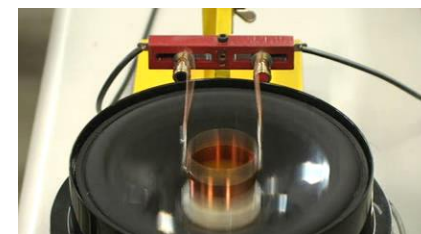
OD



TWEETER 、 MID-RANGE 、 WOOFER



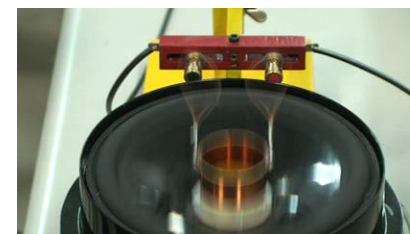
PERFECT



SHAKING



SNAKING



ROPING



Flammable Wire



Non-Flammable wire

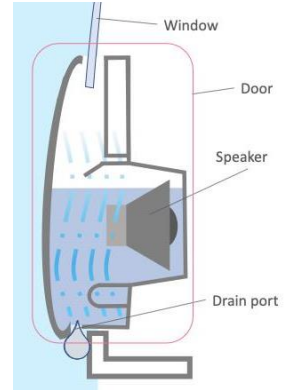
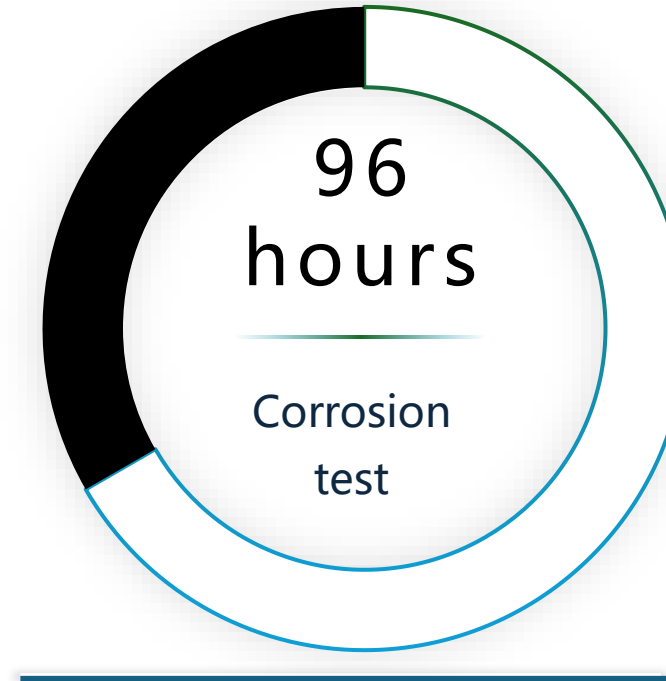
SOLUTION



0 hr → 24 hr → 48 hr → 72 hr → 96 hr

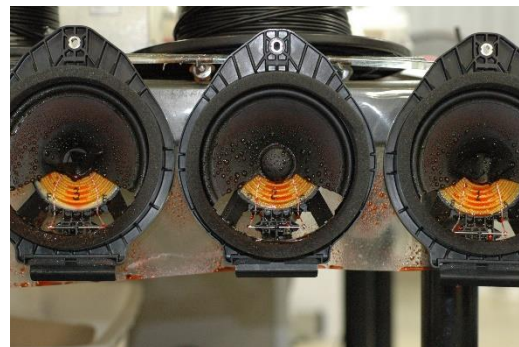


0 hr → 24 hr → 48 hr → 72 hr → 96 hr



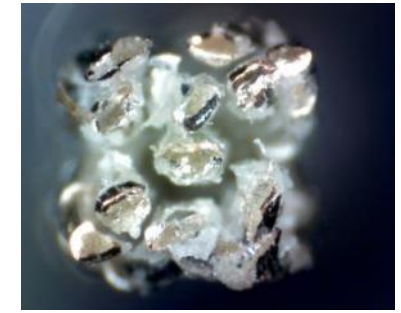
Maeden was running below test for the customers:

1. Soak water test
2. Corrosion test
3. Spray test
4. Fatigue test
5. Power test



Maeden found out the key reason for the wire failure was that the wire was hollow and the speaker design trapped water inside the wire, which caused it to fail quickly.

Design a brand new speaker conductor which could have stronger resistance against Fatigue/corrosion with Maeden's surface treatment technology.

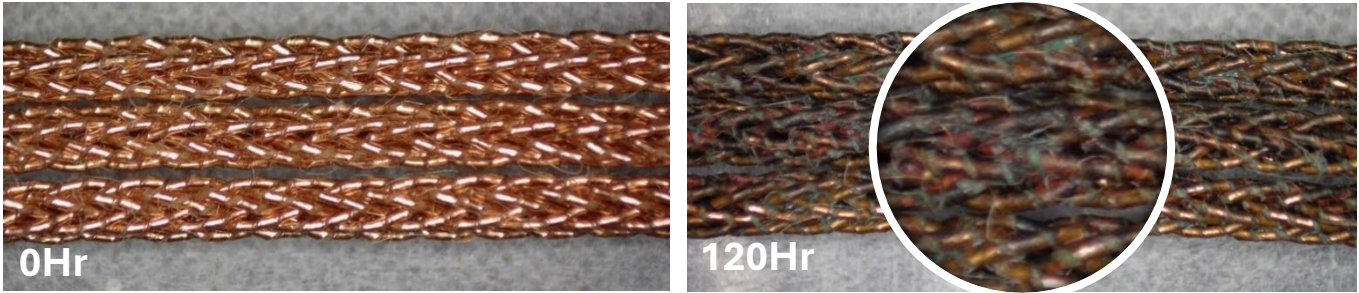




Plating Technology

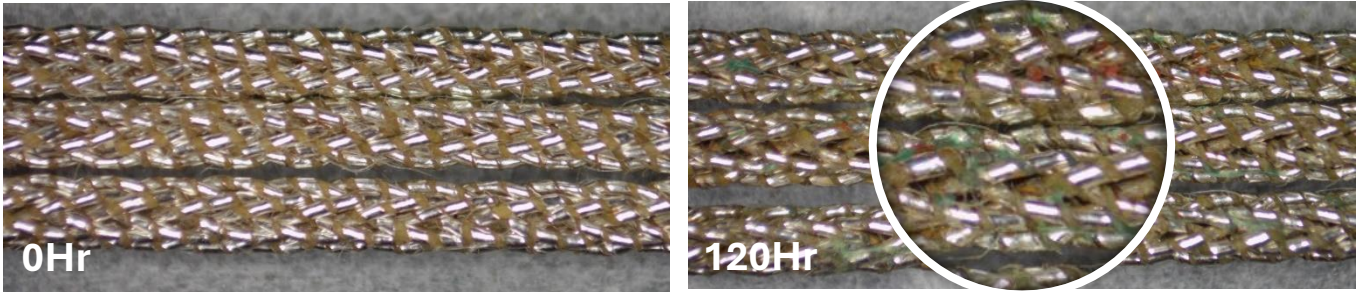
- Put the Sample in 5% salt water for 30 minutes, then place it in a temperature and humidity control chamber at 60°C and 93% humidity for 120H Salt water testing.

Copper Alloy
NO BG Plating



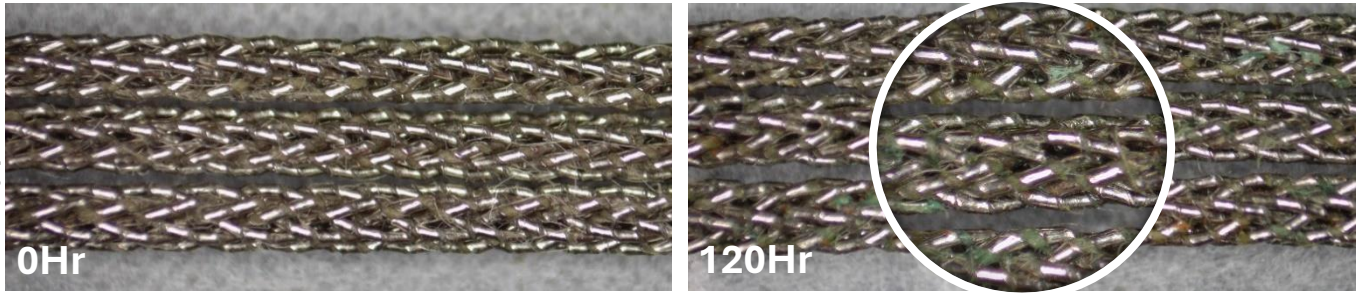
| DCR | | | |
|-------|-------|-------|-------|
| 0Hr | 0.173 | 0.175 | 0.176 |
| 120Hr | 1.45 | 0.307 | 0.241 |

Copper Alloy
With Silver Plating



| DCR | | | |
|-------|-------|-------|-------|
| 0Hr | 0.172 | 0.170 | 0.171 |
| 120Hr | 0.172 | 0.172 | 0.175 |

Copper Alloy
With Maeden Plating



| DCR | | | |
|-------|-------|-------|-------|
| 0Hr | 0.175 | 0.175 | 0.173 |
| 120Hr | 0.175 | 0.175 | 0.174 |

◆ Available for CASS Test



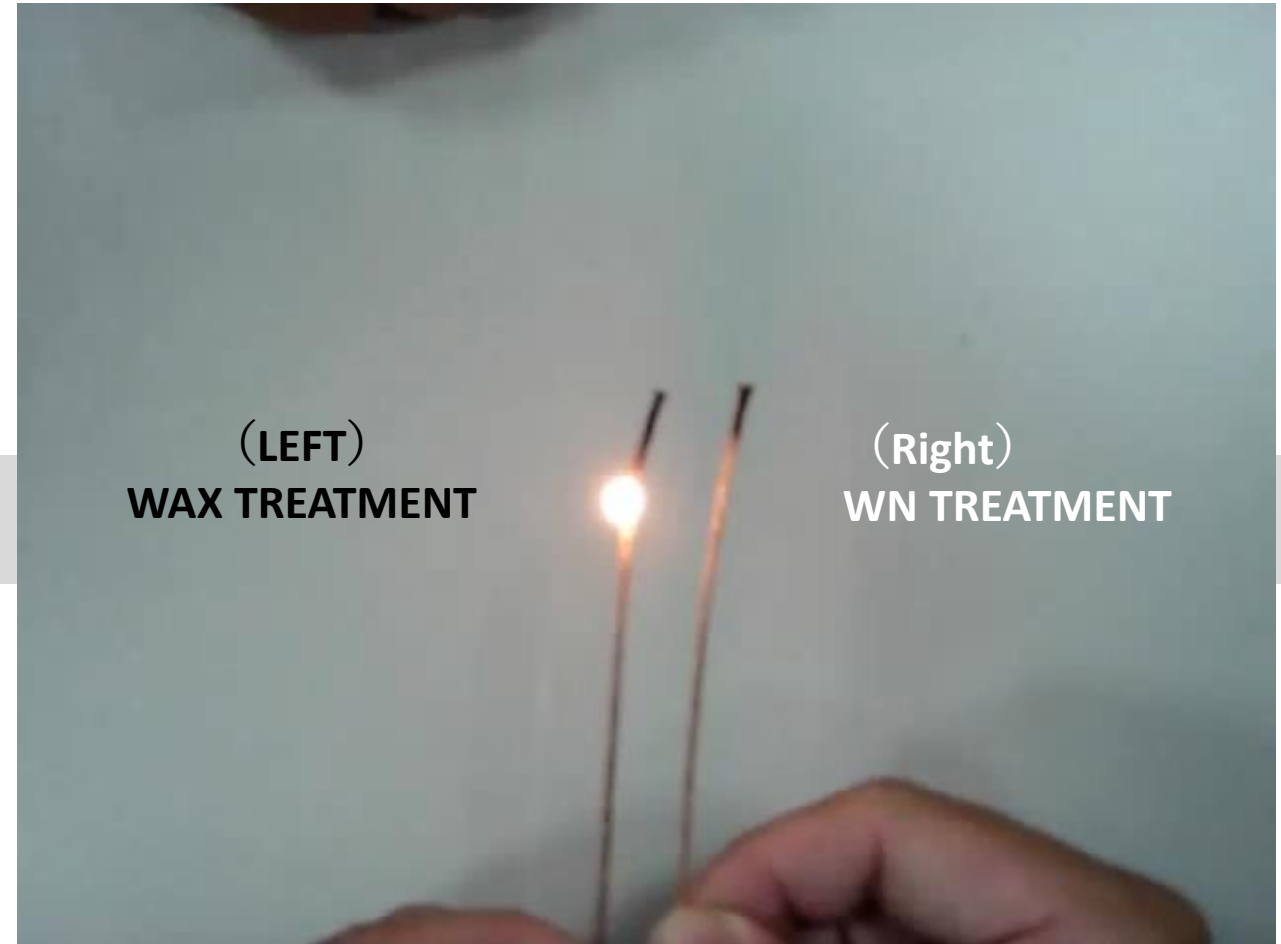
Treatment Technology

■ Maeden Unique WN treatment

WN Fire retardant treatment

Maeden Unique WN Treatment

Prevent tinsel caught on fire
Prevent speaker caught on fire



2) SHIELDING TUBES FOR DASHBOARD



**Auto Dashboard need to have high EMI resistance,
So Shielding tube performance plays a key role.**

**Maeden's product not only perform
better in shielding effectiveness,
but also save at least 30% of weight.**

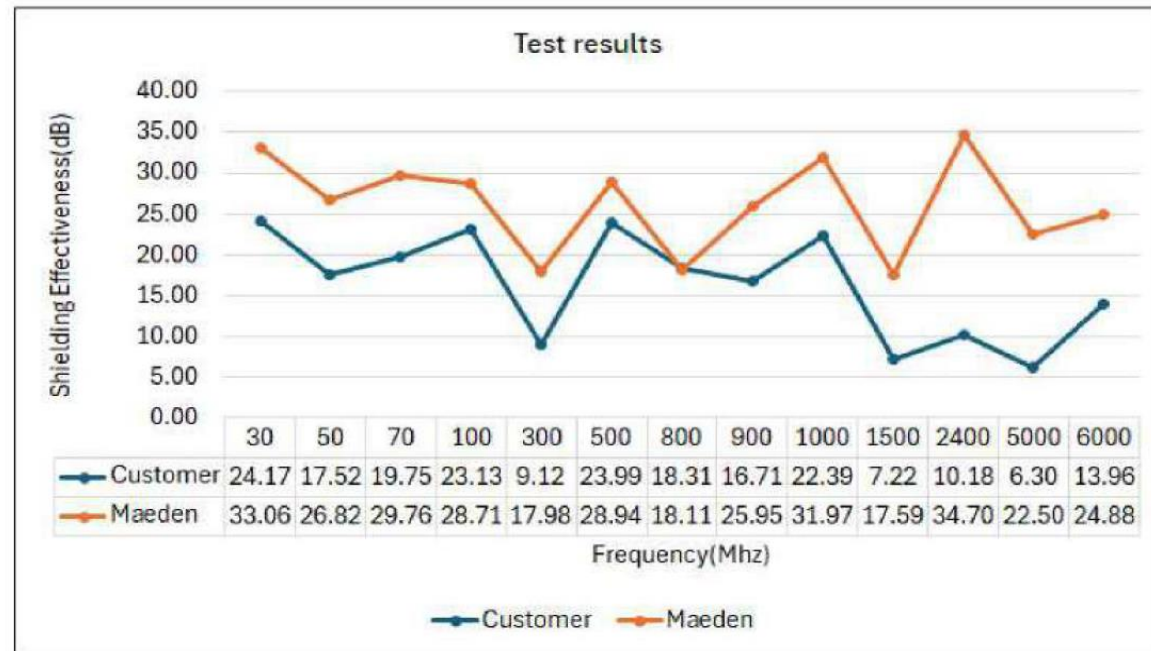
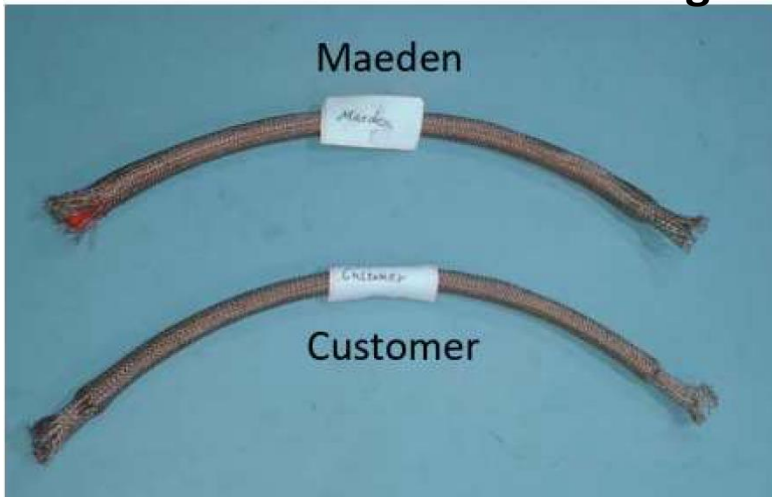


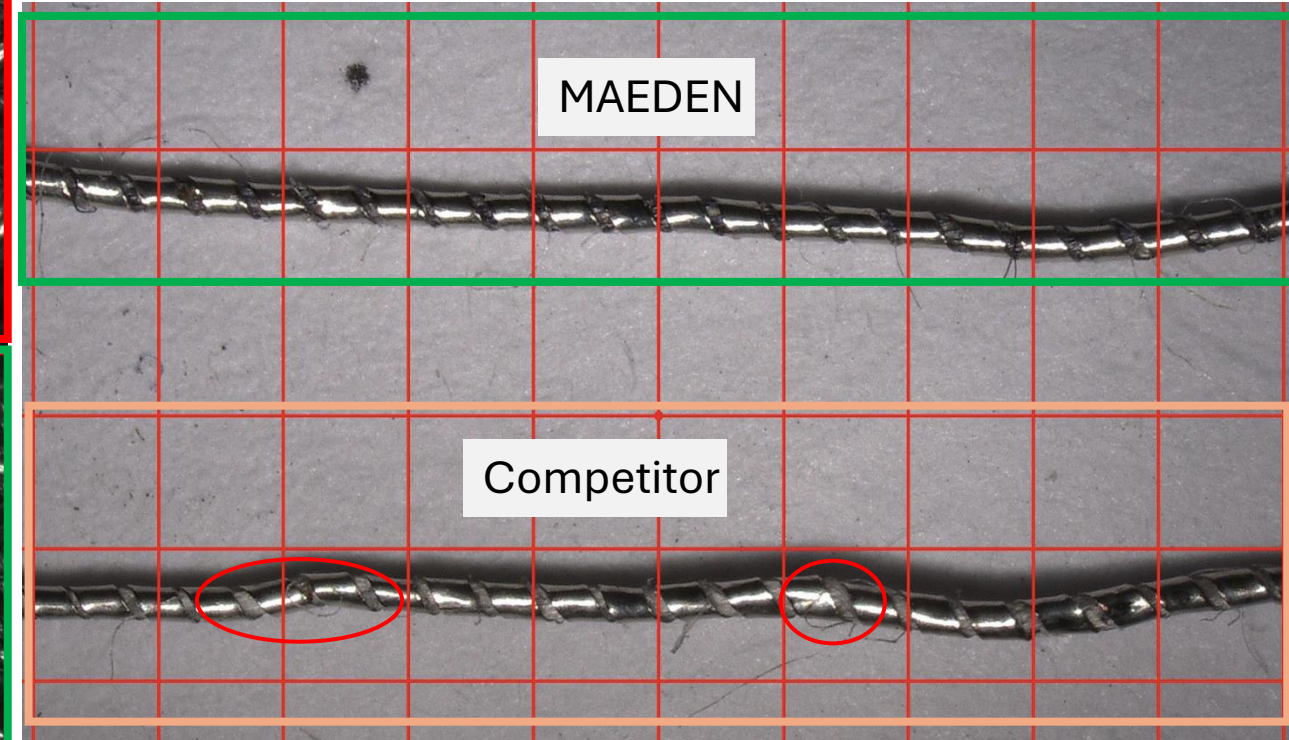
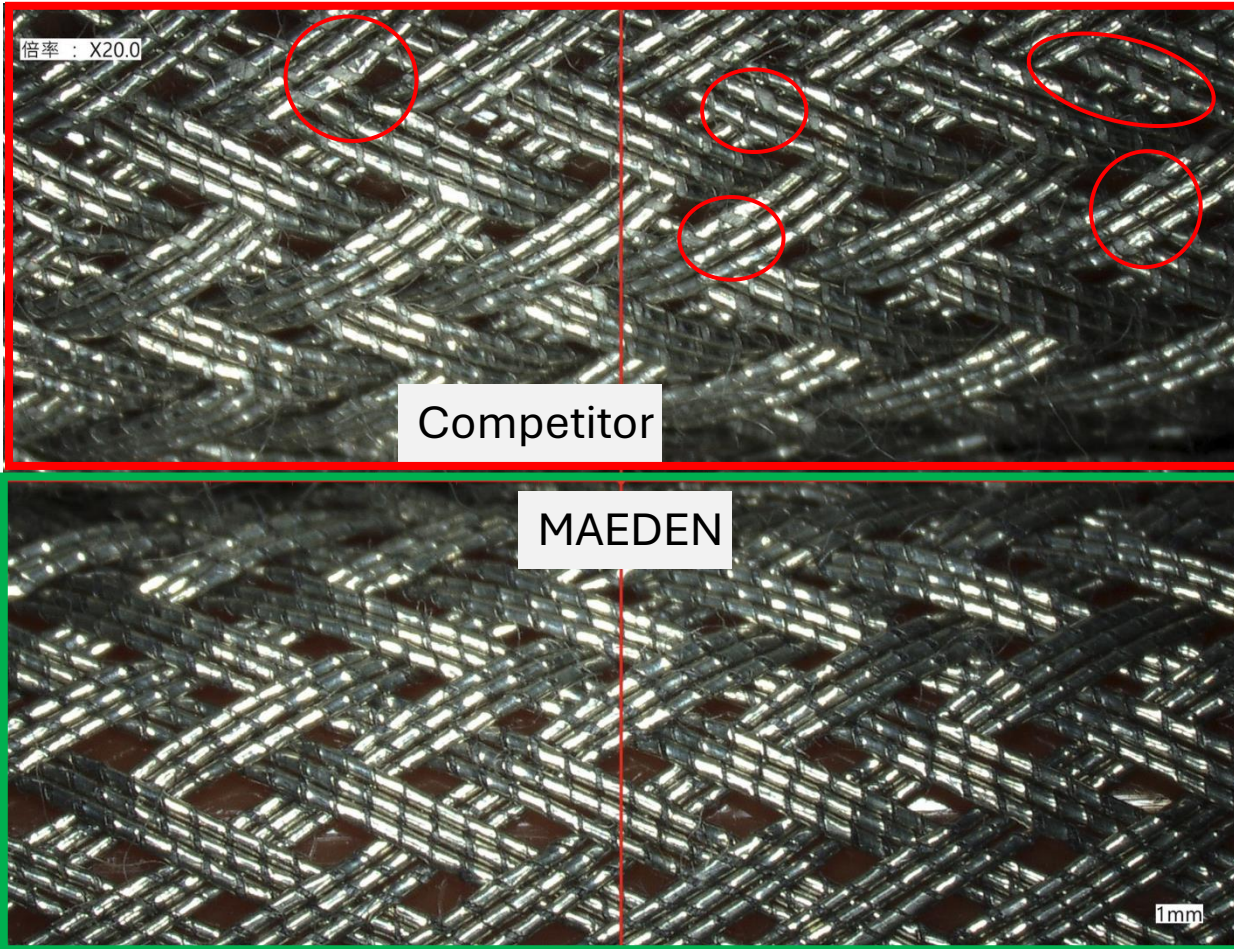
Fig.3.11 Test results for Customer and Maeden

| Test method | Copper tube | | | | | | | | | | | | |
|-----------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 30M | 50M | 70M | 100M | 300M | 500M | 800M | 900M | 1G | 1.5G | 2.4G | 5G | 6G |
| SE-customer(dB) | 24.17 | 17.52 | 19.75 | 23.13 | 9.12 | 23.99 | 18.31 | 16.71 | 22.39 | 7.22 | 10.18 | 6.30 | 13.96 |
| SE-Maedes(dB) | 33.06 | 26.82 | 29.76 | 28.71 | 17.98 | 28.94 | 18.11 | 25.95 | 31.97 | 17.59 | 34.70 | 22.50 | 24.88 |



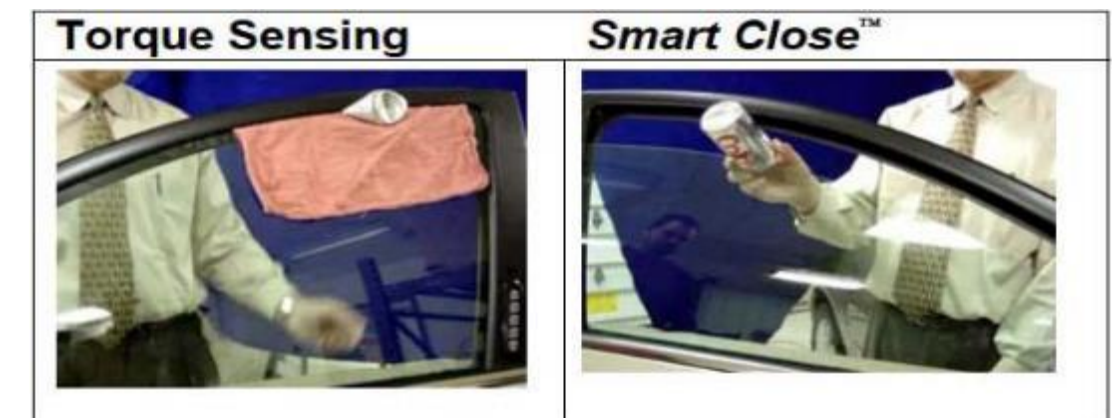
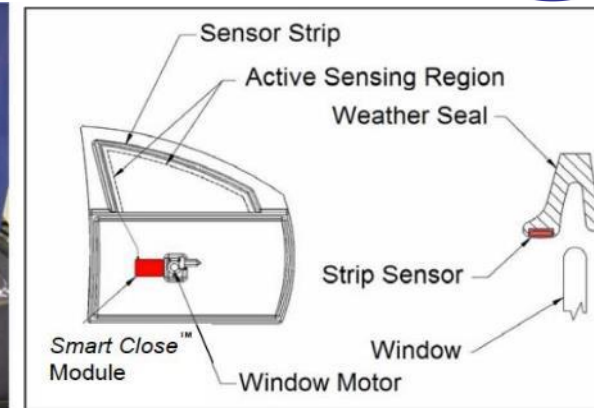
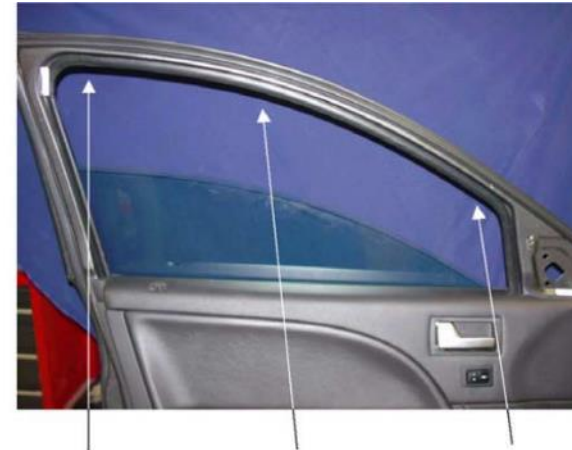
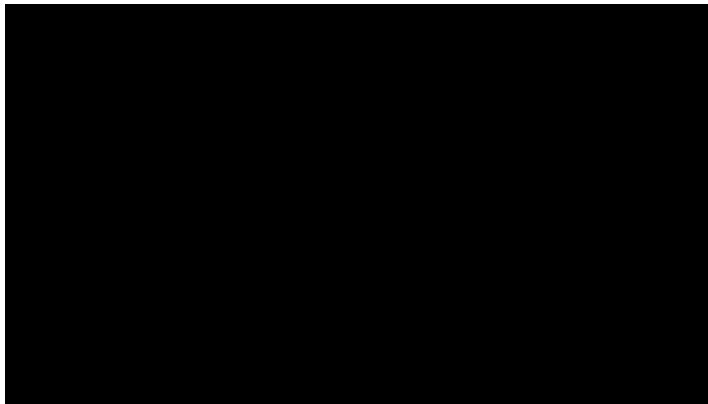
Shielding Sleeve Comparison

Quality, Service, Solution



- Red Circles highlight spots that Single Stand with Inconsistent wrapping pitch
- Spots without Copper Foil wrapping would not have good performance in EMI shielding

3) SEAL STRIP SENSOR

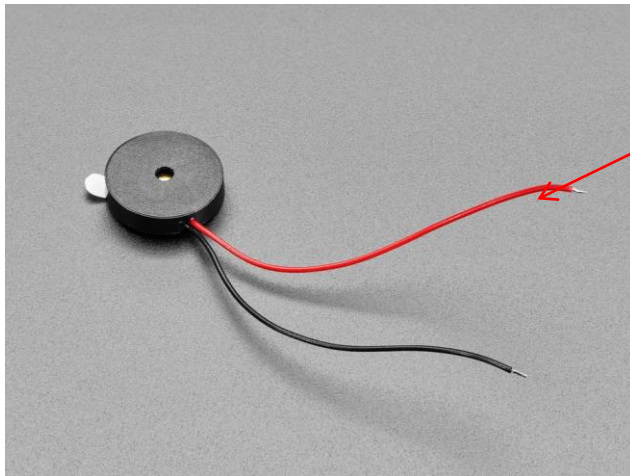
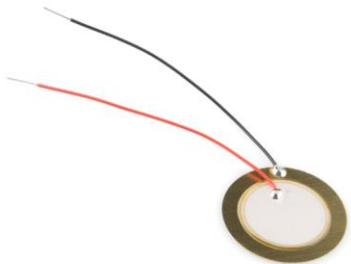
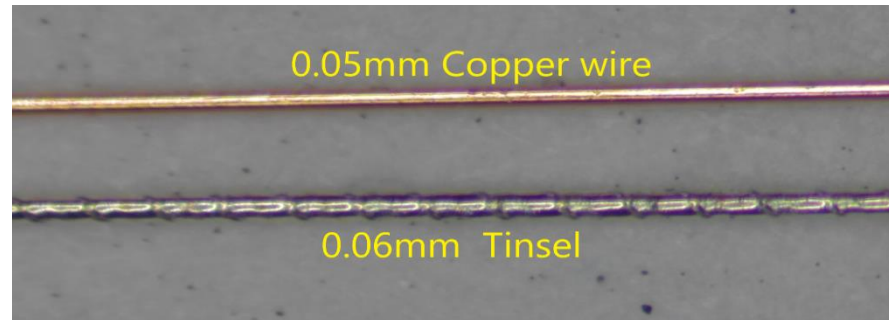


- Maeden's conductor has higher durability from 360°
- Resistance against all kinds of condition

4) PARKING SENSOR



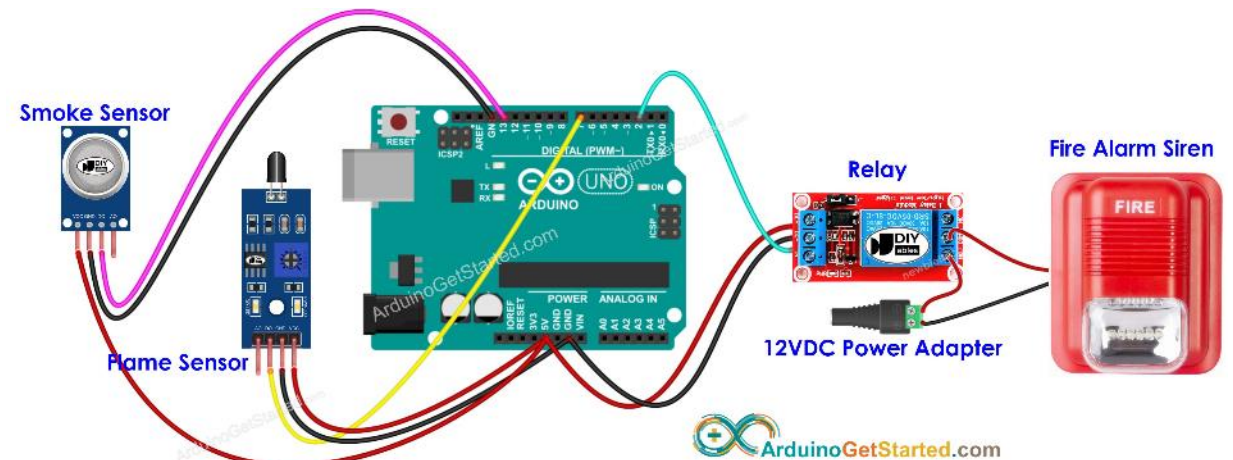
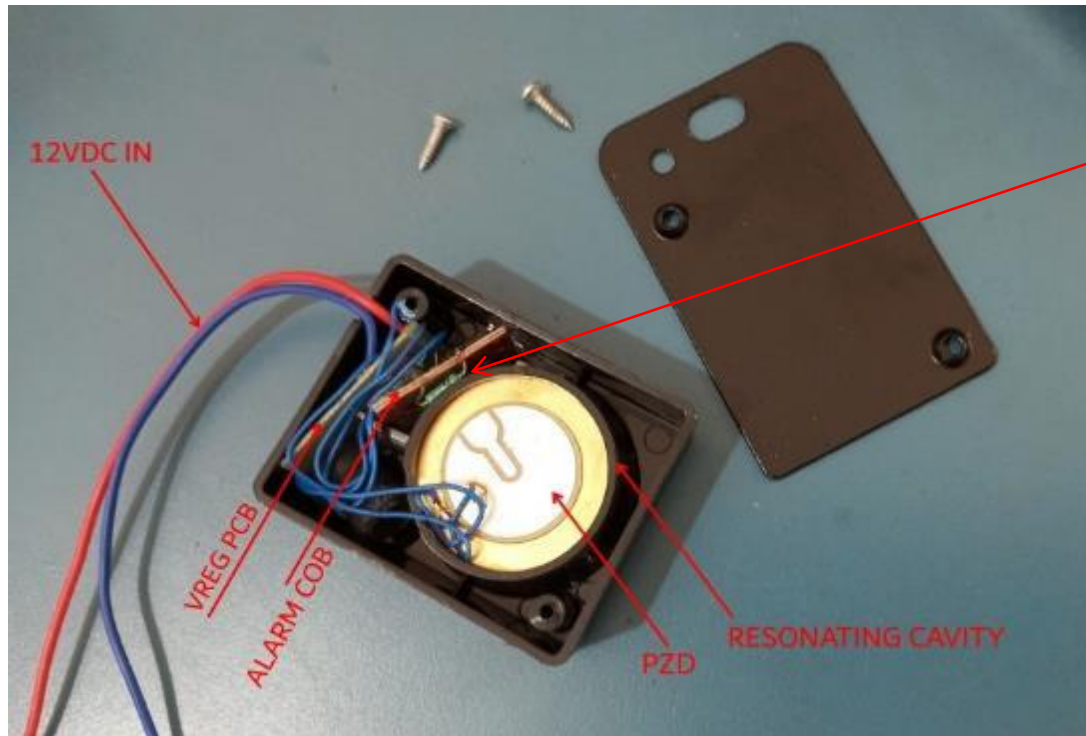
- Maeden's conductor is also applied in Piezo for parking sensor.
- Maeden's braiding technology provides higher durability with thinnest OD&light weight



5) EMERGENCY SIREN



- Maeden's conductor is also applied in emergency siren for all kinds of vehicles.
- Strong durability against high volume sound and environment



THANK YOU