

铜·铜合金线材

Copper and Copper Alloy Wire Materials



Our pride is in our high quality and high reliability 我们引以为傲的高品质及高可靠性。

古河电工作为电线、展铜以及铝业界的顶级厂商，拥有着 130 余年的历史。我公司的导电材料事业部铜线制造部，具有从溶解铸造到线材加工的完备制造体制，可以满足能源、汽车、电子等各个领域的客户需求。为了达到客户要求的特性，我们致力于各种合金的开发，通过提供高纯度、高精度的产品，获得了客户对我们产品质量的高度评价与信任。

Furukawa Electric Co., Ltd. is proud of its 130-year history as a leading manufacturer in the electric wire, wrought copper, and aluminum industries. Copper Wire Production Department of Electric Conductor Division has established a comprehensive production system that encompasses all processes from fusion and casting to wire drawing. We have met the needs of customers in a number of areas, including energy, automobiles, and electronics. By continuing to develop different types of alloys and offering products with high purity and precision, we earn the appreciation and trust from our customers.

铜线的种类 Types of copper wires

以使用SCR (Southwire Continuous Rod) 制造的高品质铜线 (TPC: Tough Pitch Copper) 为首，我们备有从无氧铜线到各种微量合金线的众多品种。

We offer many types of products, ranging from oxygen-free copper wires to dilute copper alloys, in addition to tough pitch copper (TPC) manufactured by Southwire Continuous Rod (SCR).

品种 Product type	特征 Features	用途 (代表例) Applications (typical examples)
TPC	高导电性 High Electrical Conductivity	一般 (电气用) 电线 等 Electrical Wire and Cable etc.
	高表面光洁/高延伸性 High Surface Quality/High Drawability	卷线/极细线 等 Enameled Wire/Fine Wire etc.
	高强度/抗疲劳性 High Tension/Bending Fatigue	医用电缆/机器人电缆/ABS电缆/扬声器电缆 等 Cable for Medical Equipment/Robot Cable/ ABS Cable/Speaker Cable etc.
	耐热性/高导电性 Heat Resistance/High Electrical Conductivity etc.	整流器/耐热电缆 等 Commutator/Heat Proof Cable etc.
OFC	高导电性 High Electrical Conductivity	音响用电缆/电子部件 等 Audio Cable/Electronic Appliance etc.
UHD	耐热性/抗疲劳性/高强度/高导电性 Heat Resistance/Bending Fatigue/High-strength/ High Electrical Conductivity	微型喇叭线圈/小型振动马达线圈 医疗用连接线/音响用连接线/电热电阻线 等 Micro Speaker Coil/Micro Vibrator/Medical Device/ Audio Cable/Heater Wire etc.
	耐热性/抗疲劳性/高强度/高导电性/环保型 Heat Resistance/Bending Fatigue/High-strength/ High Electrical Conductivity/Environmentally Considerate	
	PC UHD	

TPC: Tough Pitch Copper (氧含量 Oxygen amount: 200 ~ 500ppm, Cu+Ag ≥ 99.90%)

OFC: Oxygen-Free Copper (氧 Oxygen ≤ 10ppm, Grade1: Cu ≥ 99.99% Grade2: Cu ≥ 99.98%)

UHD: Ultra High Drawability SP: Shaving Process

主要品种的标准规格 Standard specifications of major product types

品种 Product type	材质 Class	线径 Wire diameter (mm)	拉伸强度 Tensile Strength (MPa)	延伸率 Elongation (%)	导电率 Electrical Conductivity (%)
TPC	H	2.6	≥ 434	≥ 0.86	≥ 97
		0.9	≥ 452	≥ 0.46	≥ 96
		0.65	≥ 455	≥ 0.40	≥ 96
	A	0.65	≤ 275	≥ 20	≥ 100
0.15%Sn	H	2.6	≥ 461	≥ 0.2	≥ 85
		0.9	≥ 490		≥ 84
		0.65	≥ 539		≥ 80
	A	0.65	196-255	≥ 20	≥ 86
0.3%Sn	H	2.6	≥ 480	≥ 0.2	≥ 75
		0.9	≥ 519		≥ 73
		0.65	≥ 568		≥ 70
	A	0.6	216-274	≥ 20	≥ 78
0.7%Sn	H	2.6	≥ 559	≥ 0.2	≥ 57
		0.9	≥ 588		≥ 56
		0.65	≥ 637		≥ 56
	A	0.65	235-294	≥ 20	≥ 58
0.08%Ag	H	2.6	≥ 431	≥ 0.2	≥ 96
		0.9	≤ 451		≥ 96
UHD 0.6%Ag	H	2.6	≥ 430	≥ 0.2	≥ 91
		0.65	≥ 500		≥ 86
UHD 1%Ag	H	2.6	≥ 450	≥ 0.2	≥ 90
		0.65	≥ 550		≥ 85
UHD 2%Ag	H	2.6	≥ 520	≥ 0.2	≥ 87
		0.65	≥ 600		≥ 82
UHD 4%Ag	H	2.6	≥ 600	≥ 0.2	≥ 80
		0.65	≥ 730		≥ 77
UHD 20HT	H	2.6	≥ 480	≥ 0.2	≥ 87
		0.65	≥ 550		≥ 82
UHD 40HT	H	2.6	≥ 560	≥ 0.2	≥ 80
		0.65	≥ 680		≥ 77

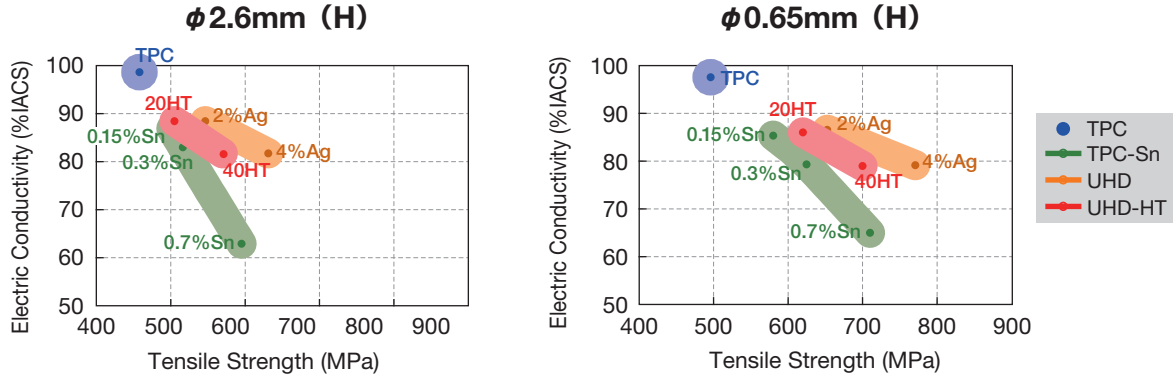
供应尺寸: φ 0.4 ~ 2.6mm (其它尺寸可另行协商)

Available sizes: φ 0.4 to 2.6mm (other sizes are available through consultation)

具有代表性的合金线产品特性 Main properties of our alloy wires

【导电率与拉伸强度】

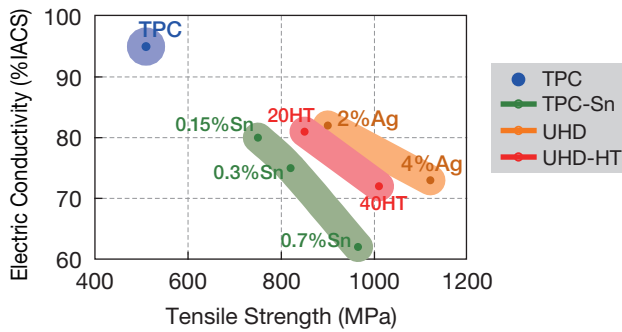
Tensile Strength and Electric Conductivity



极细线加工时的性能 Properties after drawn down to ultra fine wire

【导电率与拉伸强度】

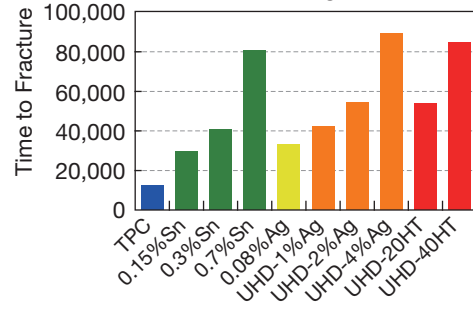
Tensile Strength and Electric Conductivity at φ0.06mm (H)



※各种合金均实现高强度化
 ※Alloys are obtained high-strength

【抗疲劳特性】

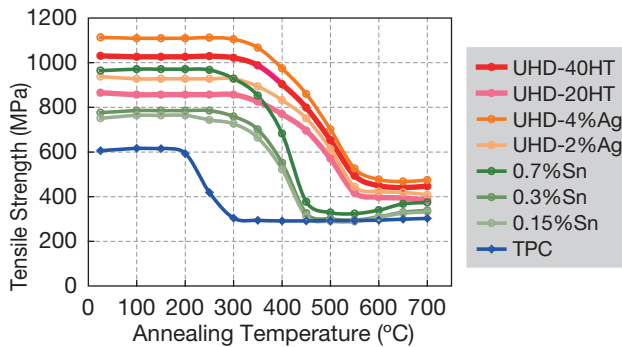
Bending fatigue at φ0.06mm
 r=10d, W=20g



※拥有高抗疲劳特性
 ※High performance of reverse bending test

【退火特性・耐热性】

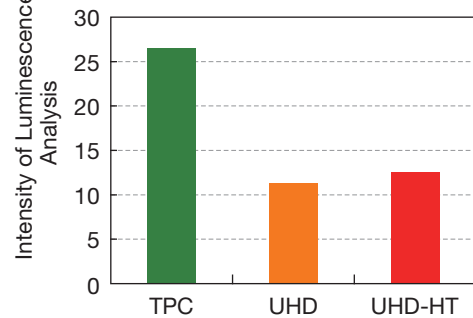
Thermal resistance at φ0.06mm



※各种合金（特别是加入Ag的合金）均具有优良的耐热性能，可适用于高温环境
 ※Alloys (especially those containing Ag) feature excellent thermal resistance, and have been used in high-temperature environments

【杂质含量比较】

Comparison of impurities content at φ0.06mm

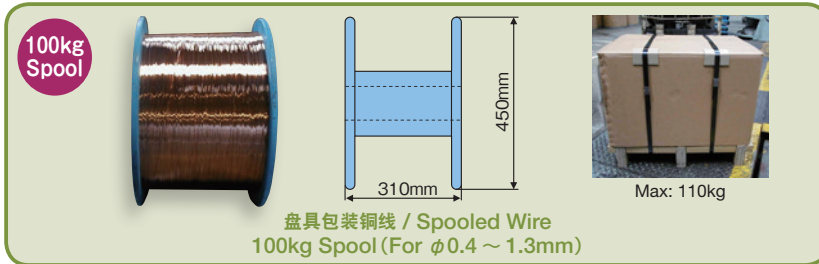


※UHD中对于造成断线的杂质实施了彻底管理（良好的延伸性）
 ※Impurities that cause wire breakages have been managed thoroughly with UHD (featuring excellent wire drawing properties)

标准包装 (出口用包装) Typical packaging (for export)

我们推荐与产品的质量及线径相适应的包装形式。

We make suggestions for packaging to suit the mass and wire diameter.



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