



Thermal Manufacturing Solutions

Section H

Thermocouple, Extension And RTD Wire

Introduction	H-1
Double Braided Fiberglass Thermocouple And Extension Wire	H-2
Double Braided Fiberglass Thermocouple And Extension Wire With Overbraid	H-3
Braided Fiberglass Thermocouple And Extension Wire	H-4
Braided Fiberglass Thermocouple And Extension Wire With Overbraid	H-5
FEP Insulated Thermocouple And Extension Wire	H-6
TFE Tape Insulated Thermocouple and Extension Wire	H-7
PVC Insulated And Shielded Thermocouple And Extension Wire	H-8
PVC Insulated Thermocouple And Extension Wire	H-9
Polyimide Insulated Thermocouple And Extension Wire	H-10
High Temperature Ceramic Fiber Thermocouple Wire	H-11
High Temperature Braided Thermocouple and Extension Wire	H-12
Fiberglass Wrapped Thermocouple And Extension Wire	H-13
Braided Fiberglass Wrapped Thermocouple And Extension Wire With Overbraid	H-14
FEP Insulated RTD Wire	H-15
Fiberglass Braided RTD Wire	H-16

THERMOCOUPLE, EXTENSION AND RTD WIRE

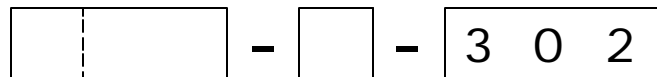
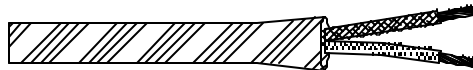
Acrolab Thermocouple, Extension and RTD are manufactured following ISO 9001 standards and all EMF versus temperature calibration procedures follow one or more of the following standards:

- ◆ ASTM E 207
- ◆ ASTM E 220
- ◆ AMS 2750

All testing has NIST traceability and NIST calibration certificates are available upon request. Insulated temperature ranges from -328 to 2350° F (-200 to 1290°C) and tolerances from 0.5° C or ±0.4%

The following pages include a wide range of the commonly used wire types used in various industries. Specialty wire can be manufactured to your exact requirements including colour coding to comply with United States, United Kingdom, German, Japanese and IEC standards. UL Isited and PLTC wire is also available.

DOUBLE BRAIDED FIBERGLASS THERMOCOUPLE AND EXTENSION WIRE



CALIBRATION	
CODE	CODE
E	/
J	/
K	/
N	/
S	/
T	/

WIRE GAUGE	
CODE	
20	
24	

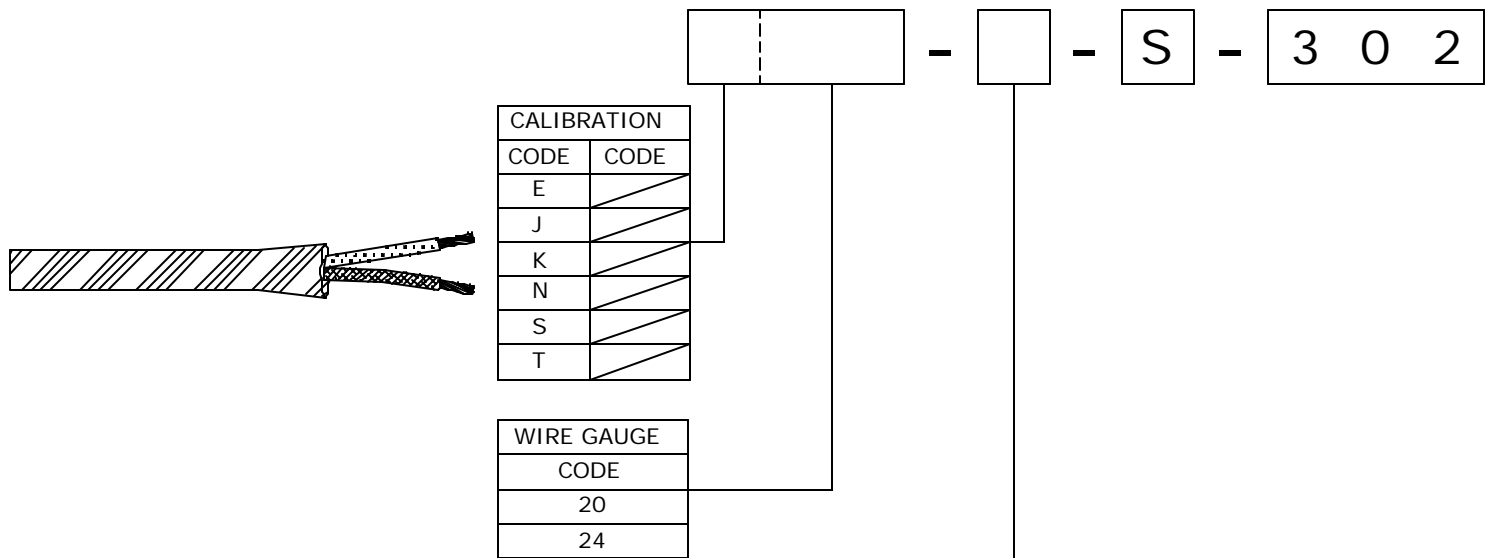
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	DOUBLE FIBERGLASS BRAID SINGLE CONDUCTOR INSULATION, EACH BRAID IS IMPREGNATED TO ADD ABRASION RESISTANCE AND MINIMIZE FRAYING OF THE FIBROUS GLASS. IMPREGNATION RETAINED TO 400° F (204° C)
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING GLASS, CERAMIC AND BRICK PLANTS PLASTIC PROCESSING EQUIPMENT

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F (480° C)	GOOD	GOOD	GOOD

DOUBLE BRAIDED FIBERGLASS THERMOCOUPLE AND EXTENSION WIRE WITH OVERBRAID



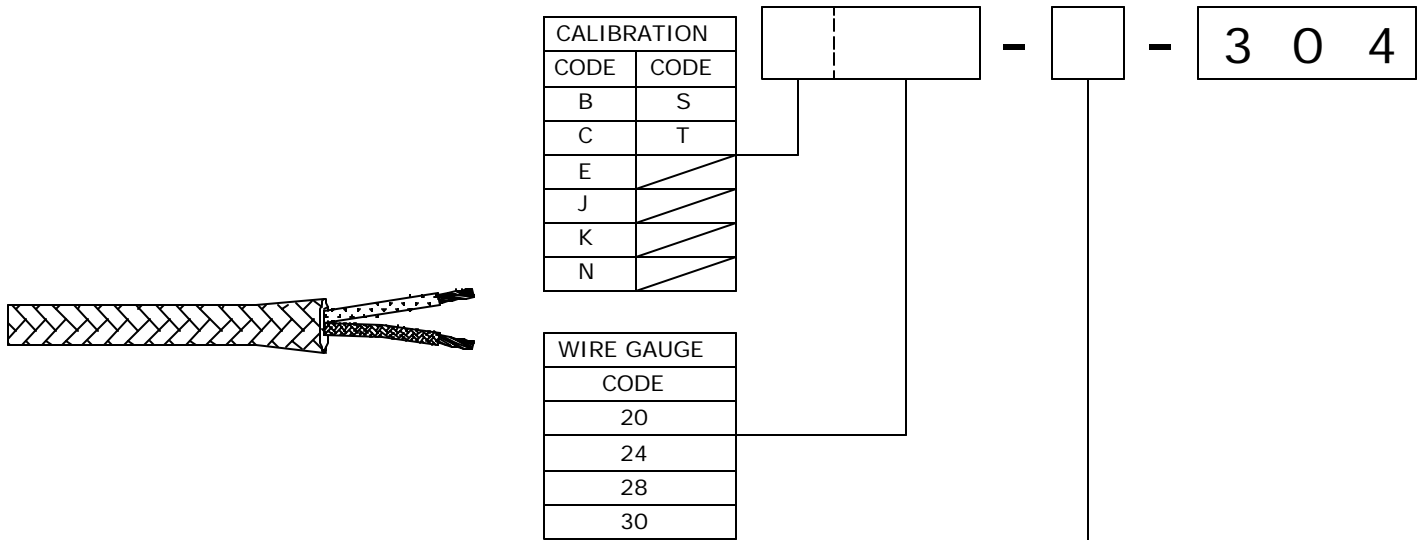
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	DOUBLE FIBERGLASS BRAID SINGLE CONDUCTOR INSULATION, EACH BRAID IS IMPREGNATED TO ADD ABRASION RESISTANCE AND MINIMIZE FRAYING OF THE FIBROUS GLASS. IMPREGNATION RETAINED TO 400° F (204° C). STAINLESS STEEL OVERBRAID OVER OUTER INSULATION
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING GLASS, CERAMIC AND BRICK PLANTS PLASTIC PROCESSING EQUIPMENT

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F (480° C)	GOOD	GOOD	EXCELLENT

BRAIDED FIBERGLASS THERMOCOUPLE AND EXTENSION WIRE



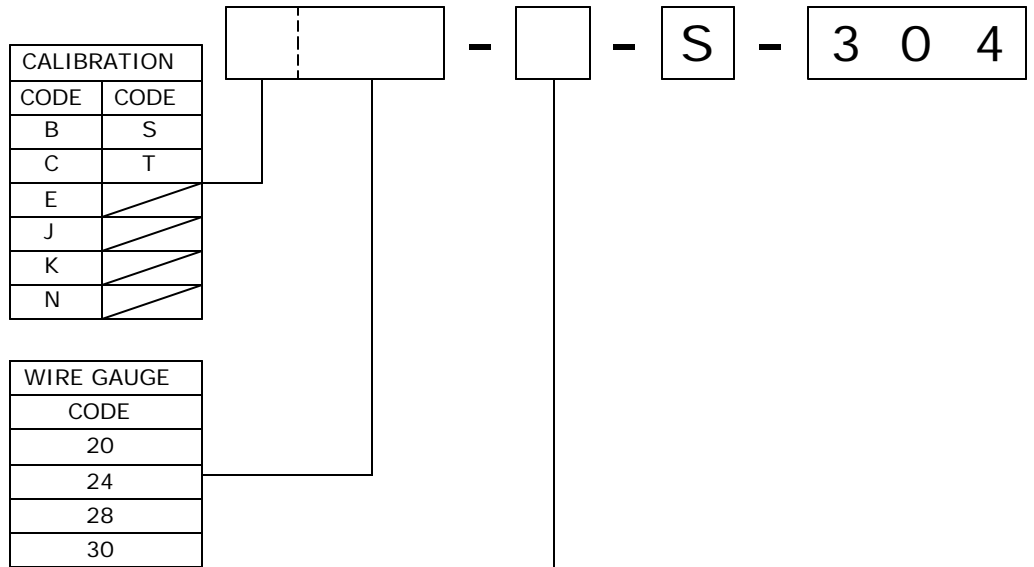
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	FIBERGLASS BRAIDED SINGLE CONDUCTOR AND DUPLEX INSULATION, EACH BRAID IS IMPREGNATED WITH MODIFIED RESIN TO ADD ABRASION RESISTANCE FRAYING OF THE FIBROUS GLASS. IMPREGNATION RETAINED TO 400° F (204° C)
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING GLASS, CERAMIC AND BRICK PLANTS

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F (480° C)	GOOD	GOOD	FAIR

BRAIDED FIBERGLASS THERMOCOUPLE AND EXTENSION WIRE WITH OVERBRAID



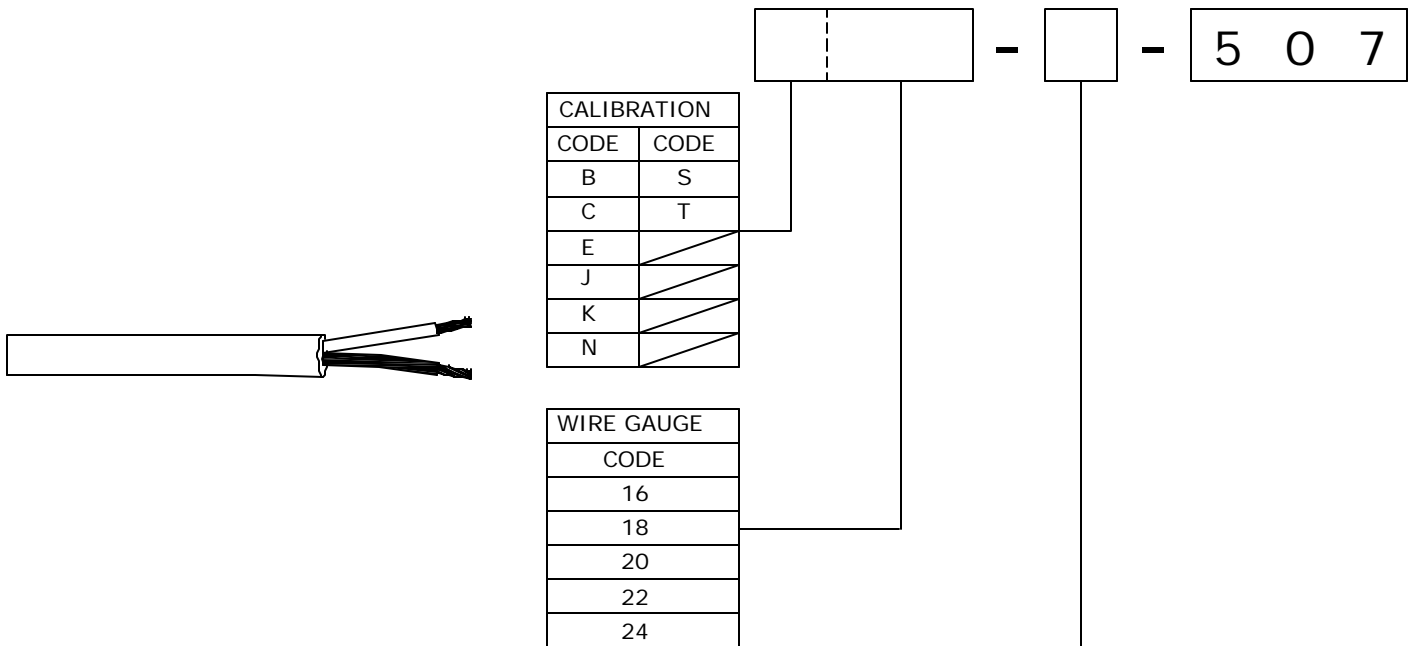
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	FIBERGLASS BRAIDED SINGLE CONDUCTOR AND DUPLEX INSULATION, EACH BRAID IS IMPREGNATED WITH MODIFIED RESIN TO ADD ABRASION RESISTANCE FRAYING OF THE FIBROUS GLASS. IMPREGNATION RETAINED TO 400° F (204° C) STAINLESS STEEL OVERBRAID OVER OUTER INSULATION
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING GLASS, CERAMIC AND BRICK PLANTS

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F	GOOD	GOOD	EXCELLENT

FEP INSULATED THERMOCOUPLE AND EXTENSION WIRE



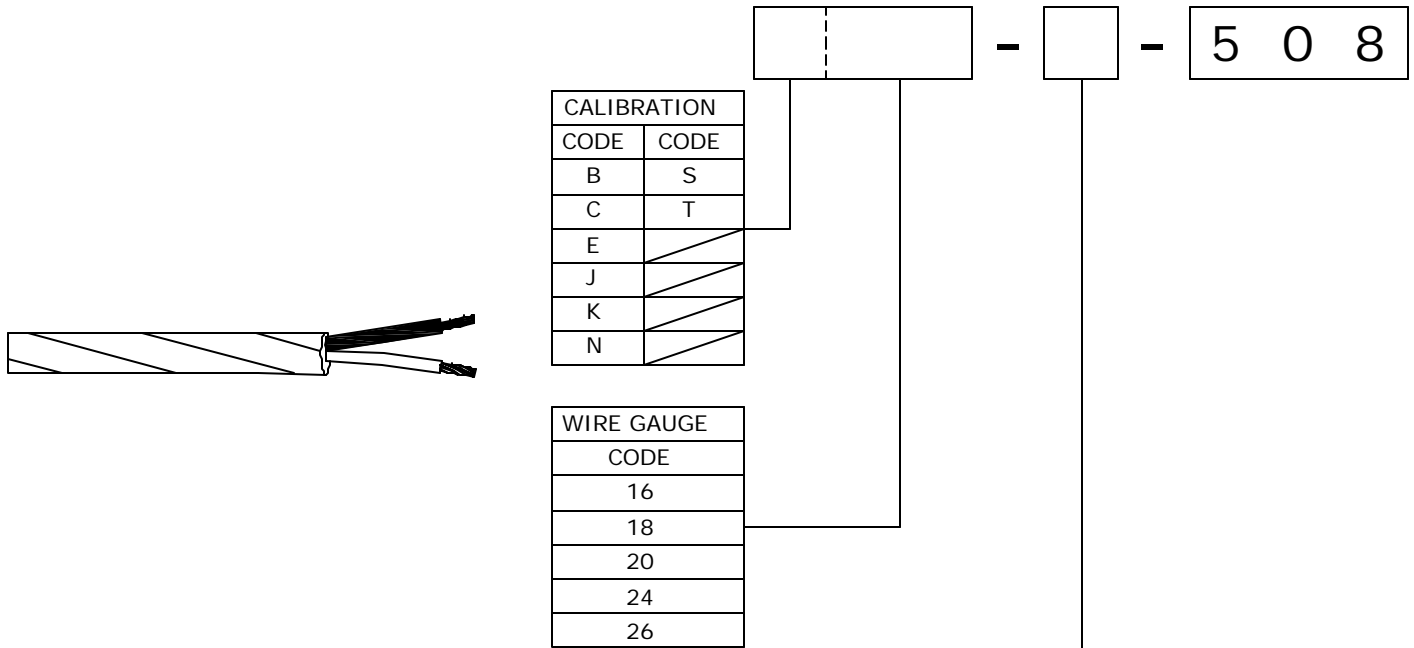
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	400° F (204° C)
SINGLE READING	500° F (260° C)
CONSTRUCTION	EXTRUDED FEP SINGLE CONDUCTOR AND DUPLEX INSULATION FOR EXCELLENT PROTECTION.
APPLICATIONS	AEROSPACE INDUSTRIAL EQUIPMENT TESTING

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
400° F (204° C)	EXCELLENT	EXCELLENT	EXCELLENT

TFE TAPE INSULATED THERMOCOUPLE AND EXTENSION WIRE



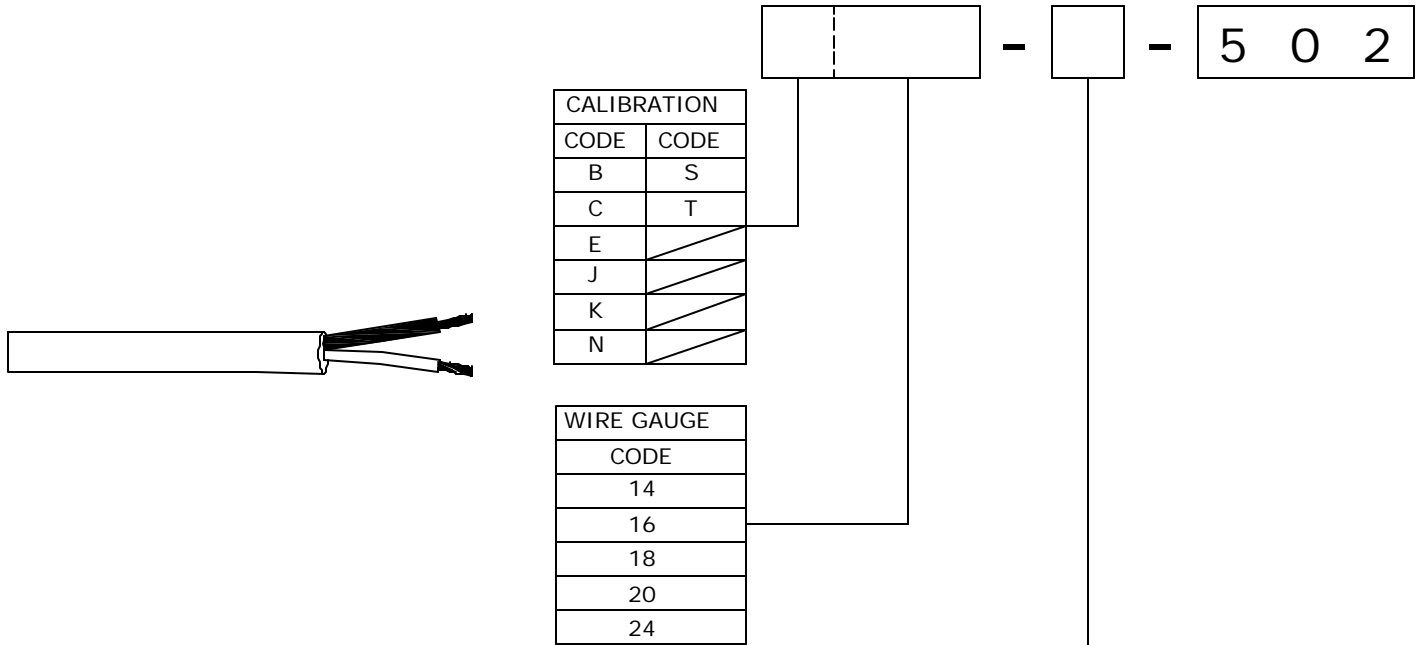
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	500° F (260° C)
SINGLE READING	600° F (315° C)
CONSTRUCTION	FUSED TFE TAPE SINGLE CONDUCTOR AND DUPLEX INSULATION TO ELIMINATE CONCENTRICITY PROBLEMS
APPLICATIONS	AIRCRAFT COMPOSITE BONDING PETROLEUM PLANTS

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
500° F (260° C)	EXCELLENT	EXCELLENT	GOOD

PVC INSULATED THERMOCOUPLE AND EXTENSION WIRE



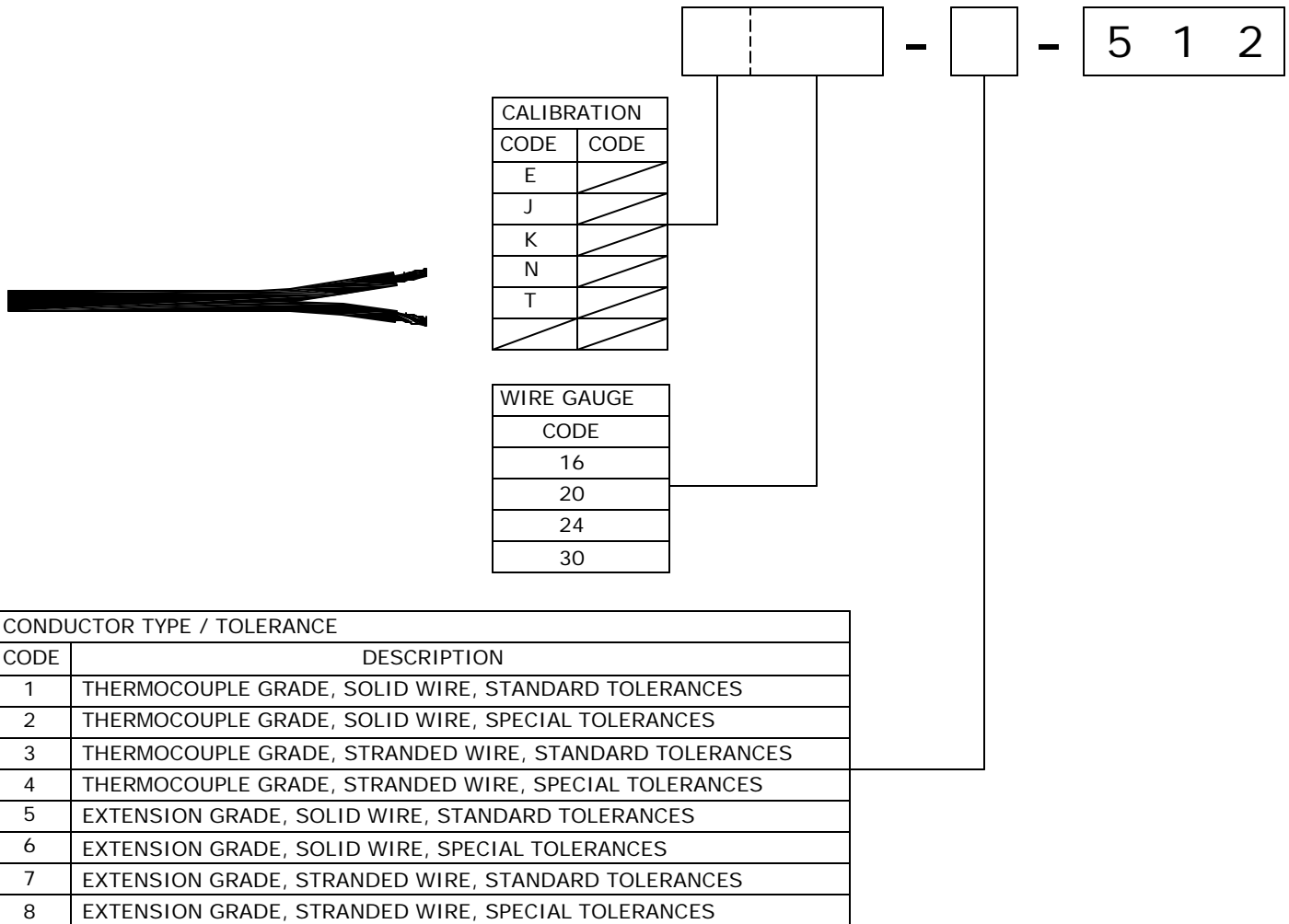
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	220° F (105° C)
SINGLE READING	N/A
CONSTRUCTION	EXTRUDED PVC SINGLE CONDUCTOR AND DUPLEX INSULATION FOR EXCELLENT MOISTURE RESISTANCE
APPLICATIONS	LABORATORIES INDUSTRIAL EQUIPMENT TESTING AUTOMOTIVE

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
220° F (105° C)	EXCELLENT	EXCELLENT	EXCELLENT

POLYIMIDE INSULATED THERMOCOUPLE AND EXTENSION WIRE

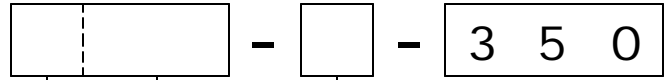


SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	600° F (315° C)
SINGLE READING	800°F (430°C)
CONSTRUCTION	FUSED POLYIMIDE TAPE SINGLE CONDUCTOR AND DUPLEX INSULATION FOR EXCELLENT PROTECTION.
APPLICATIONS	PETROCHEMICAL PLANTS GLASS, CERAMIC AND BRICK MANUFACTURING ELECTRIC POWER PLANTS CRYOGENIC APPLICATIONS AEROSPACE INDUSTRY

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
600° F (315° C)	EXCELLENT	EXCELLENT	EXCELLENT

HIGH TEMPERATURE CERAMIC FIBER THERMOCOUPLE WIRE



CALIBRATION	
CODE	CODE
E	/
J	/
K	/
N	/
/	/
/	/

WIRE GAUGE	
CODE	
16	
16	
18	
20	
24	

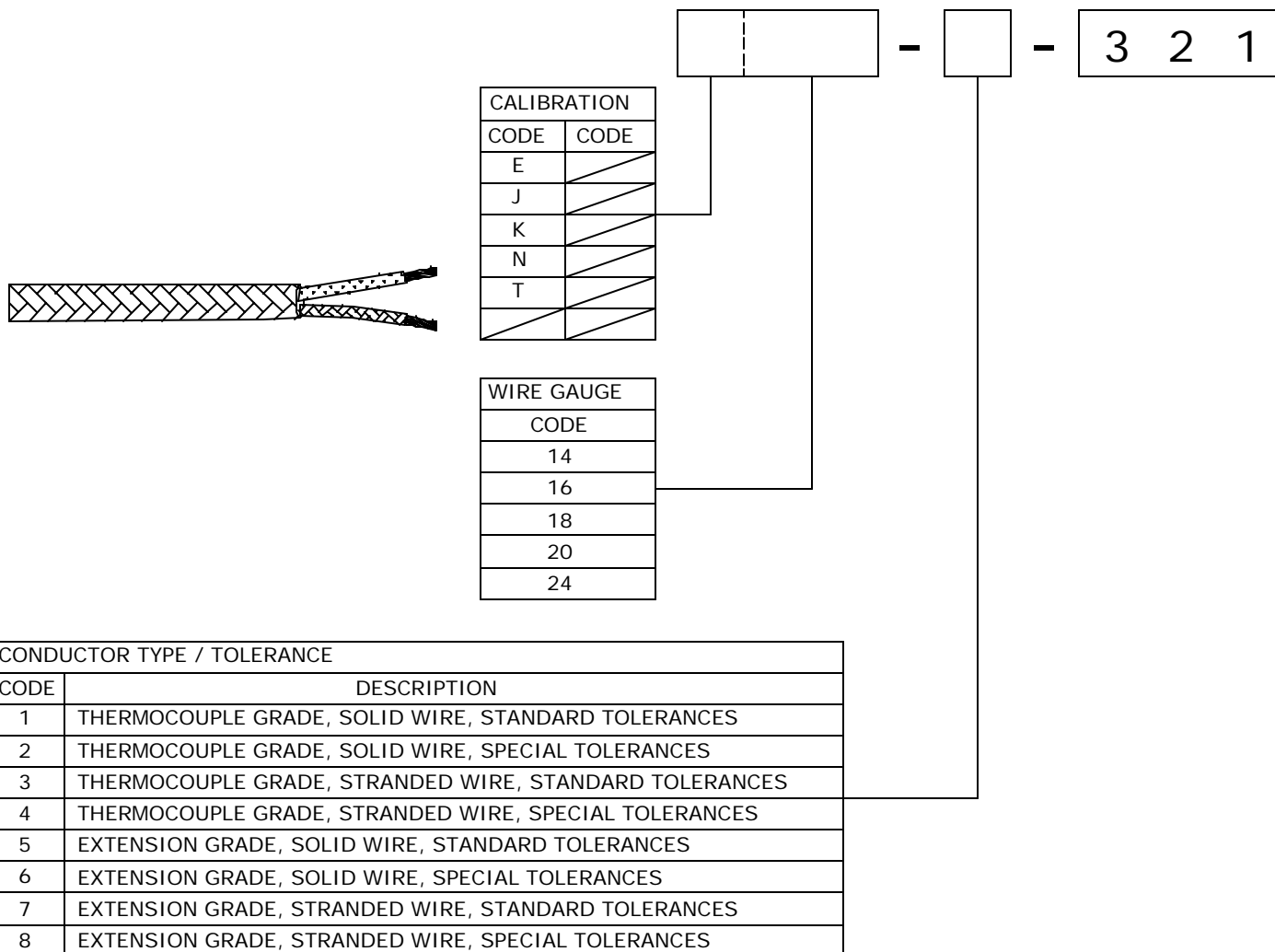
CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	2200° F (1205° C)
SINGLE READING	2600° F (1430° C)
CONSTRUCTION	CERAMIC FIBER BRAID SINGLE CONDUCTOR AND DUPLEX INSULATION. NO IMPREGNATION FOR CONTAMINATION-FREE OPERATION.
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
2200° F (1205° C)	FAIR	GOOD	GOOD

HIGH TEMPERATURE BRAIDED FIBERGLASS THERMOCOUPLE AND EXTENSION WIRE



SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING 1300° F (705° C)

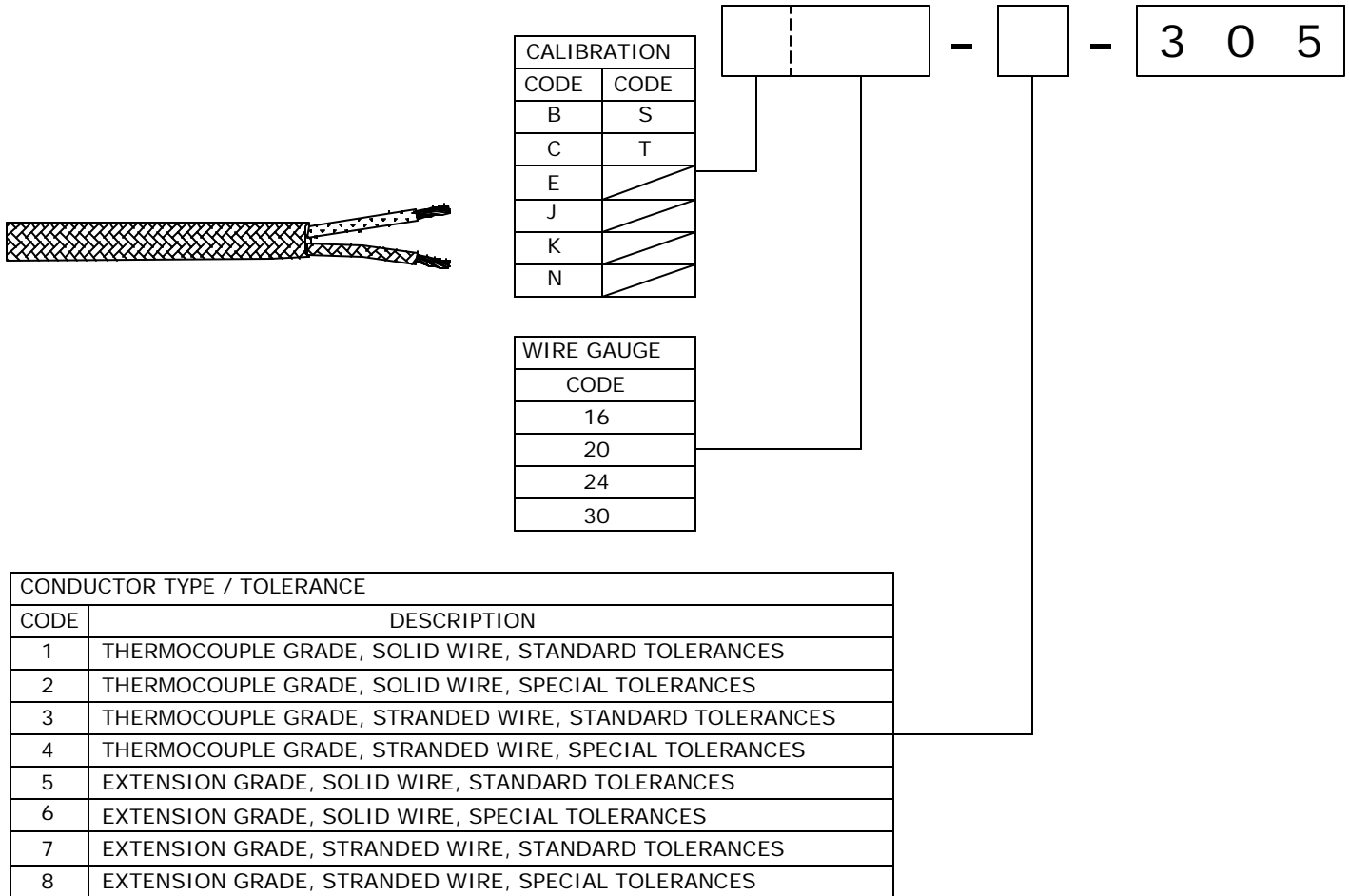
SINGLE READING 1600° F (870° C)

CONSTRUCTION HIGH TEMPERATURE FIBERGLASS BRAID SINGLE CONDUCTOR INSULATION
 IMPREGNATED WITH MODIFIED RESIN FOR ADDED ABRASION RESISTANCE.
 IMPREGNATION RETAINED TO 400° F (204° C)

APPLICATIONS LABORATORIES
 INDUSTRIAL EQUIPMENT TESTING
 AUTOMOTIVE

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
1300° F (705° C)	GOOD	GOOD	GOOD

FIBERGLASS WRAPPED THERMOCOUPLE AND EXTENSION WIRE

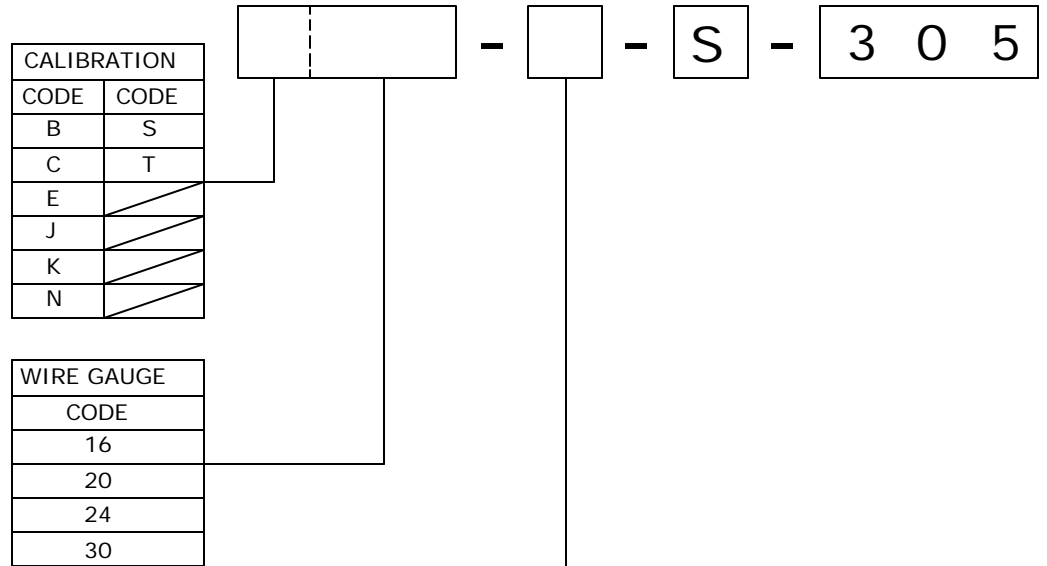


SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	DOUBLE FIBERGLASS WRAP SINGLE CONDUCTOR INSULATION, IMPREGNATED WITH MODIFIED RESIN TO ADD ABRASION RESISTANCE AND ENHANCE ELECTRICAL PROPERTIES. IMPREGNATION RETAINED TO 400° F (204° C)
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING GLASS, CERAMIC AND BRICK PLANTS FOUNDRIES

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F	GOOD	GOOD	FAIR

BRAIDED FIBERGLASS THERMOCOUPLE AND EXTENSION WIRE WITH OVERBRAID



CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
1	THERMOCOUPLE GRADE, SOLID WIRE, STANDARD TOLERANCES
2	THERMOCOUPLE GRADE, SOLID WIRE, SPECIAL TOLERANCES
3	THERMOCOUPLE GRADE, STRANDED WIRE, STANDARD TOLERANCES
4	THERMOCOUPLE GRADE, STRANDED WIRE, SPECIAL TOLERANCES
5	EXTENSION GRADE, SOLID WIRE, STANDARD TOLERANCES
6	EXTENSION GRADE, SOLID WIRE, SPECIAL TOLERANCES
7	EXTENSION GRADE, STRANDED WIRE, STANDARD TOLERANCES
8	EXTENSION GRADE, STRANDED WIRE, SPECIAL TOLERANCES

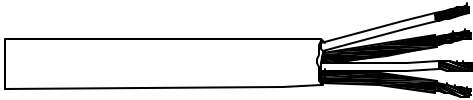
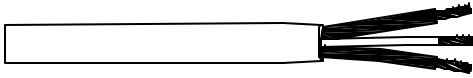
SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	DOUBLE FIBERGLASS WRAP SINGLE CONDUCTOR INSULATION, IMPREGNATED WITH MODIFIED RESIN TO ADD ABRASION RESISTANCE AND ENHANCE ELECTRICAL PROPERTIES. IMPREGNATION RETAINED TO 400° F (204° C) STAINLESS STEEL OVERBRAID OVER OUTER INSULATION
APPLICATIONS	STEEL AND ALUMINUM PLANTS HEAT TREATING GLASS, CERAMIC AND BRICK PLANTS FOUNDRIES

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F	GOOD	GOOD	EXCELLENT

FEP INSULATED RTD LEADWIRE

RT - [] - [] - [] - 704



NUMBER OF CONDUCTORS	
CODE	DESCRIPTION
2	ONE RED, ONE WHITE
3	TWO RED, TWO WHITE
4	TWO RED, TWO WHITE

WIRE GAUGE	
CODE	
20	
22	
24	

CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
6	STRANDED SILVER PLATED COPPER
8	STRANDED NICKEL PLATED COPPER

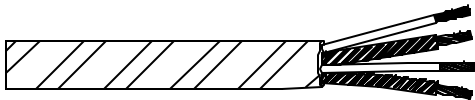
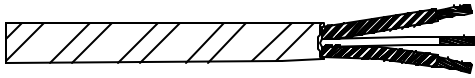
SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	400° F (204° C)
SINGLE READING	500° F (260° C)
CONSTRUCTION	EXTRUDED PVC SINGLE CONDUCTOR AND OVERALL INSULATION FOR PROTECTION. TWISTED CONDUCTORS FOR REDUCED ELECTRICAL INTERFERENCE.

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
400° F (204° C)	EXCELLENT	EXCELLENT	EXCELLENT

FIBERGLASS BRAIDED RTD LEADWIRE

RT - [] - [] - [] - 705



NUMBER OF CONDUCTORS	
CODE	DESCRIPTION
2	ONE RED, ONE WHITE
3	TWO RED, TWO WHITE
4	TWO RED, TWO WHITE

WIRE GAUGE	
CODE	
20	
22	
24	

CONDUCTOR TYPE / TOLERANCE	
CODE	DESCRIPTION
6	STRANDED SILVER PLATED COPPER
8	STRANDED NICKEL PLATED COPPER

SPECIFICATIONS

CONTINUOUS TEMPERATURE RATING	900° F (480° C)
SINGLE READING	1000° F (540° C)
CONSTRUCTION	FIBERGLASS BRAIDED SINGLE CONDUCTOR AND OVERAL INSULATION IMPREGNATED WITH MODIFIED RESIN FOR PROTECTION. TWISTED CONDUCTORS FOR REDUCED ELECTRICAL INTERFERENCE.

RESISTANCE PROPERTIES			
TEMP.	MOISTURE	CHEMICAL	ABRASION
900° F (480° C)	GOOD	GOOD	FAIR