

CABLINE®-SS

The simulation of passing PLUG through hinge

Part No. Plug: 20380-#**T-##

Technical Report

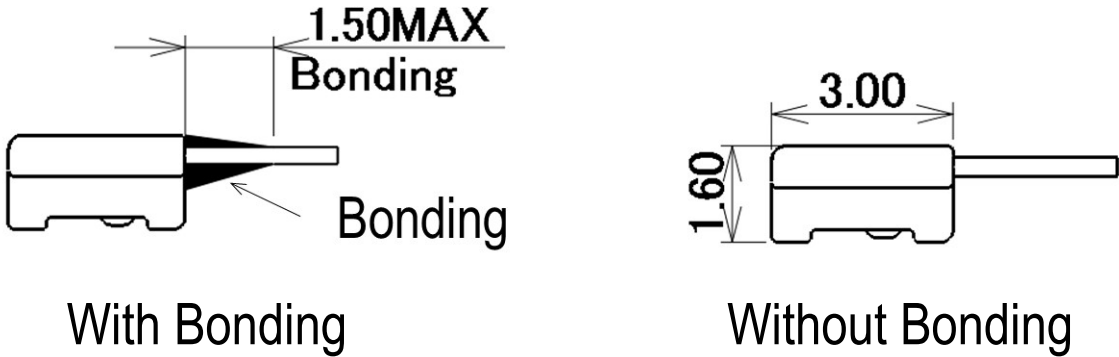
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Rev.	ECN	Date	Prepared by	Checked by	Approved by

CABLINE-SS The simulation of passing PLUG through hinge

1. Purpose
- We report the simulation results of the minimum diameter of the hinge that can store the connector(CABLINE-SS Plug) and cable.
2. Simulation conditions
- Connector : CABLINE-SS PLUG CABLE ASS'Y (20380-#**T-##)
 - Number of pins : 50P, 40P, 35P, 32P, 30P, 20P,14P,10P
 - Cable : MICRO-COAX CABLE AWG#40,42 (See Table.1 for jacket diameter)
 - ✕Each simulation is connected to all Pins.
 - Bonding : CABLINE-SS recommend bonding cable outlets.
 - When bonding, be sure to bend the cable from the end of the bonding.

Table.1 Cable jacket(outer) diameter (mm)

AWG#	Impedance matching	
	45ohm	50ohm
40	0.33	0.37
42	0.29	0.33



The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

The simulation results are shown in Table.2 and 3.

※See the next page for details.

Table.2 Minimum hinge inner diameter with bonding (mm)

Cable	Size	AWG#40		AWG#42	
	Impedance matching	40ohm	50ohm	45ohm	50ohm
	Jacket diameter	0.33	0.37	0.29	0.33
Minimum hinge inner diameter	Connector 10P	5.42	5.46	5.37	5.42
	Connector 14P	5.42	5.46	5.37	5.42
	Connector 20P	5.42	5.46	5.37	5.42
	Connector 30P	5.42	5.46	5.37	5.42
	Connector 32P	5.42	5.46	5.37	5.42
	Connector 40P	5.42	5.46	5.37	5.42
	Connector 50P	5.42	5.46	5.37	5.42

Table.3 Minimum hinge inner diameter without bonding (mm)

Cable	Size	AWG#40		AWG#42	
	Impedance matching	40ohm	50ohm	45ohm	50ohm
	Jacket diameter	0.33	0.37	0.29	0.33
Minimum hinge inner diameter	Connector 10P	3.95	4.00	3.91	3.95
	Connector 14P	3.95	4.00	3.91	3.95
	Connector 20P	3.95	4.00	3.91	3.95
	Connector 30P	3.97	4.07	3.91	3.97
	Connector 32P	3.97	4.09	3.91	3.97
	Connector 40P	4.12	4.27	3.94	4.12
	Connector 50P	4.19	4.39	4.03	4.19

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.1 With bonding
- Simulation results with AWG #40 (50ohm).

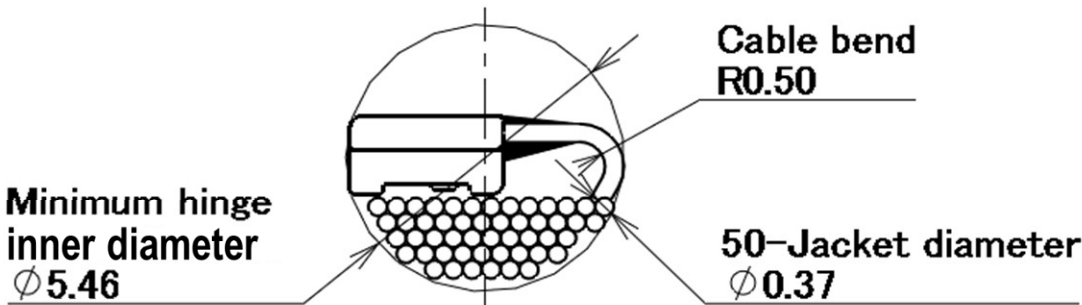


Fig.1 AWG#40 (50ohm) 50P

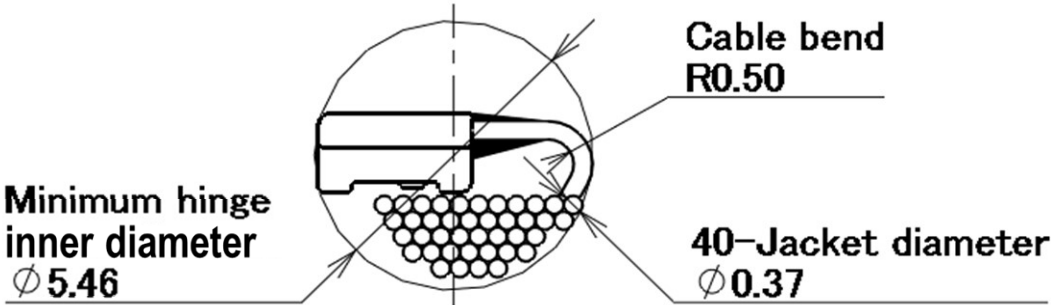


Fig.2 AWG#40 (50ohm) 40P

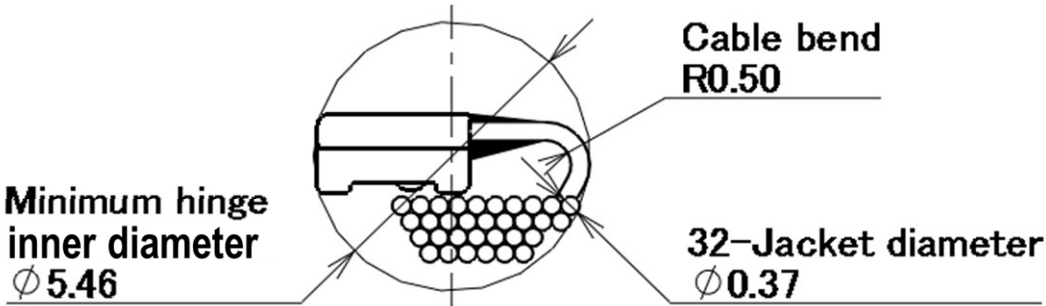


Fig.3 AWG#40 (50ohm) 32P

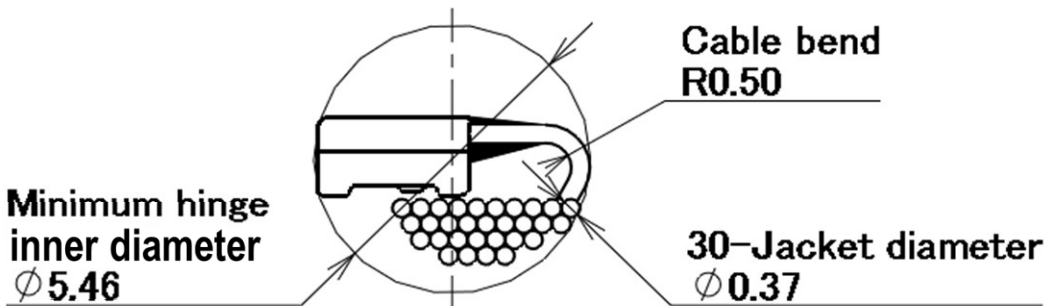


Fig.4 AWG#40 (50ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.1 With bonding

Simulation results with AWG #40 (50ohm).

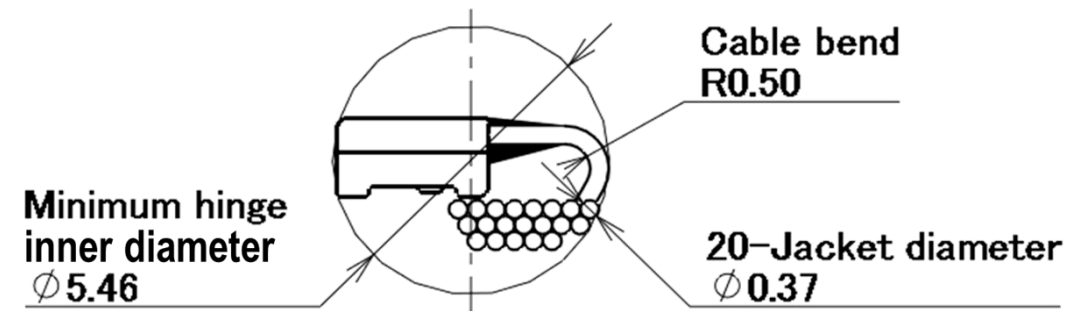


Fig.5 AWG#40 (50ohm) 20P

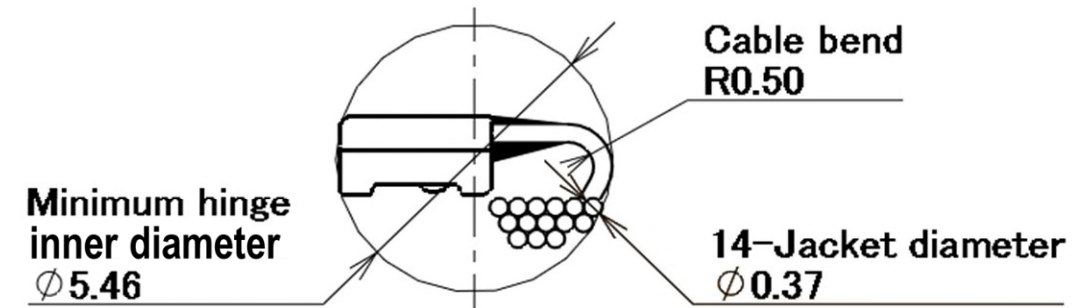


Fig.6 AWG#40 (50ohm) 14P

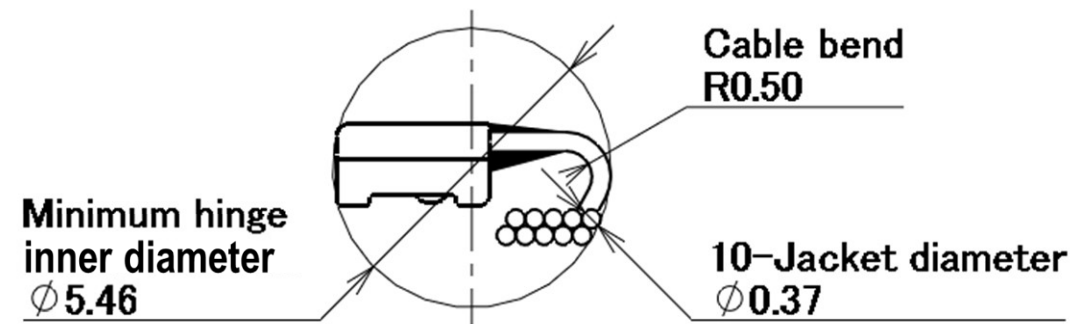


Fig.7 AWG#40 (50ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.1 With bonding
- Simulation results with AWG #40 (45ohm).

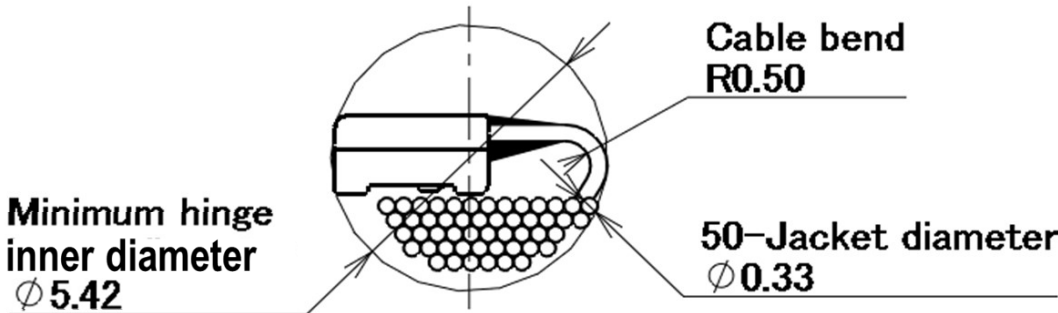


Fig.8 AWG#40 (45ohm) 50P

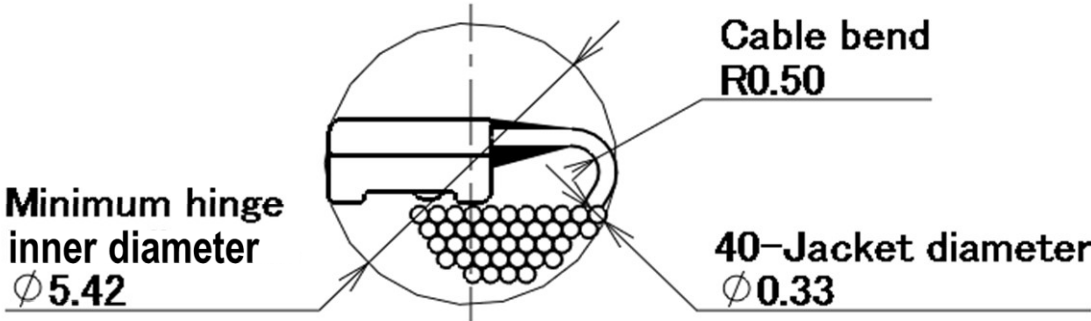


Fig.9 AWG#40 (45ohm) 40P

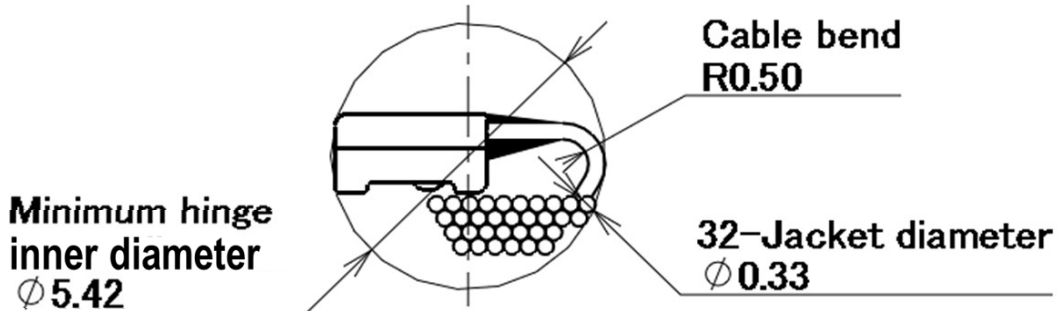


Fig.10 AWG#40 (45ohm) 32P

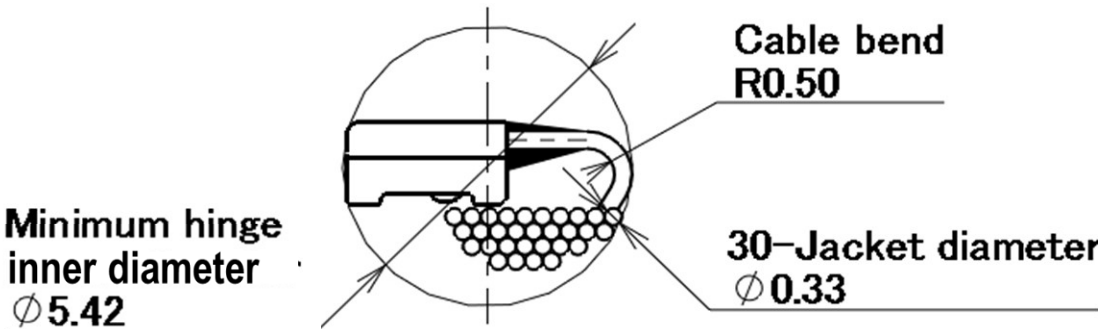


Fig.11 AWG#40 (45ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.1 With bonding

Simulation results with AWG #40 (45ohm).

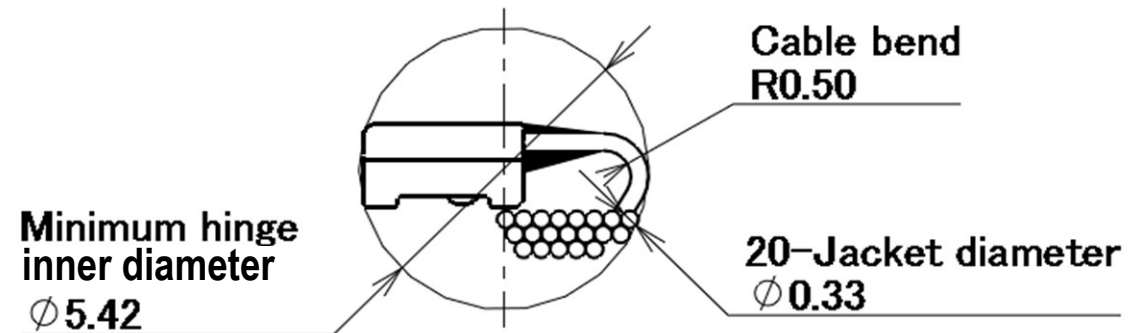


Fig.12 AWG#40 (45ohm) 20P

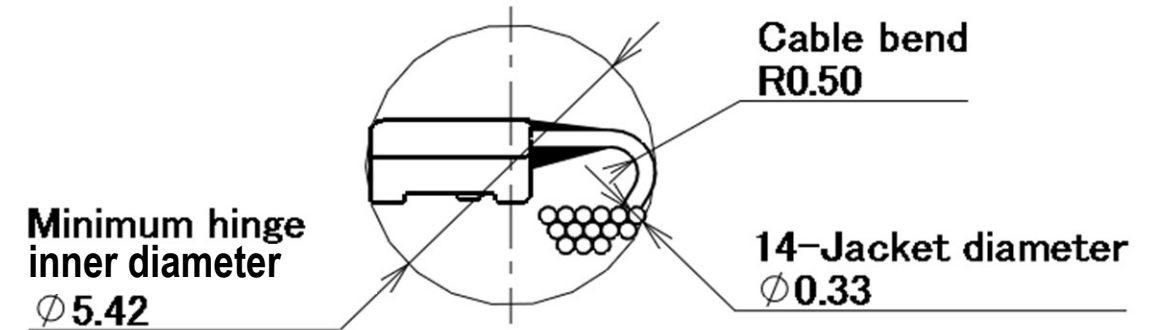


Fig.13 AWG#40 (45ohm) 14P

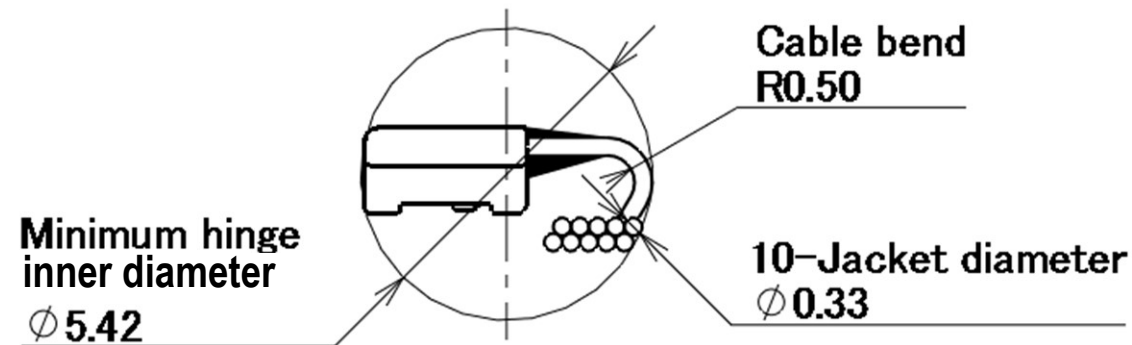


Fig.14 AWG#40 (45ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.1 With bonding
- Simulation results with AWG #42 (50ohm).

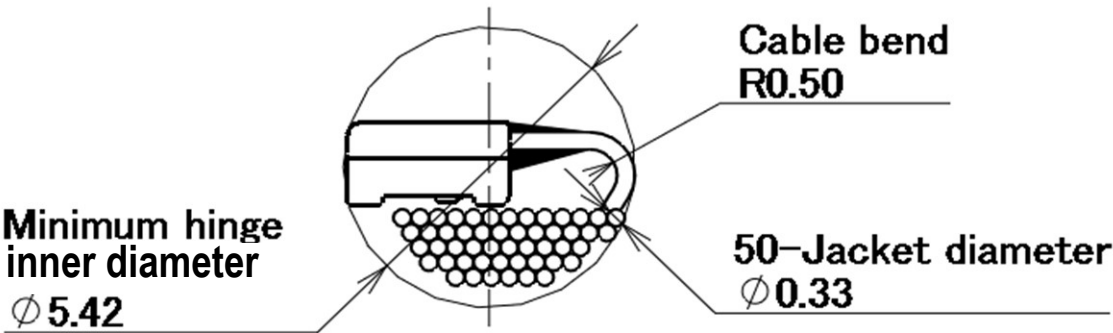


Fig.15 AWG#42 (50ohm) 50P

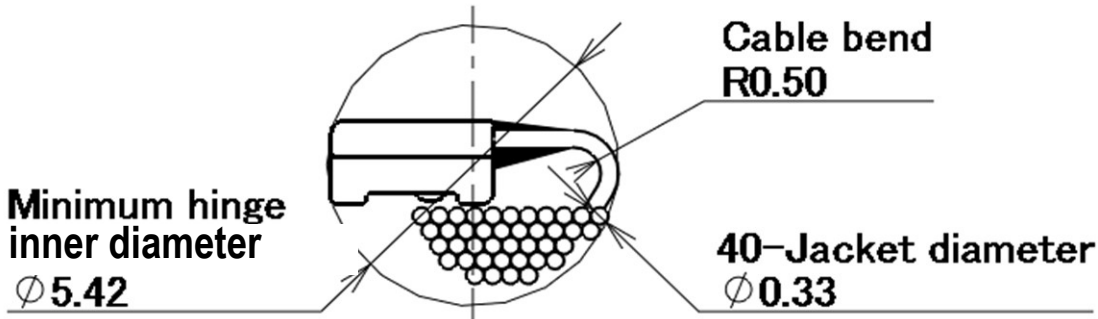


Fig.16 AWG#42 (50ohm) 40P

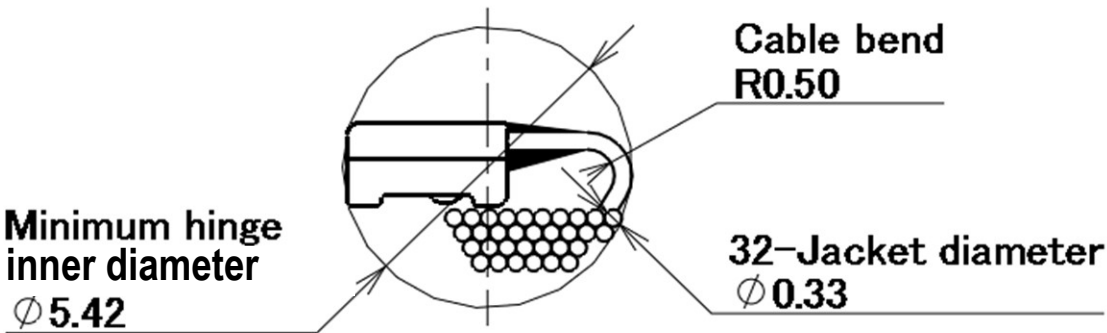


Fig.17 AWG#42 (50ohm) 32P

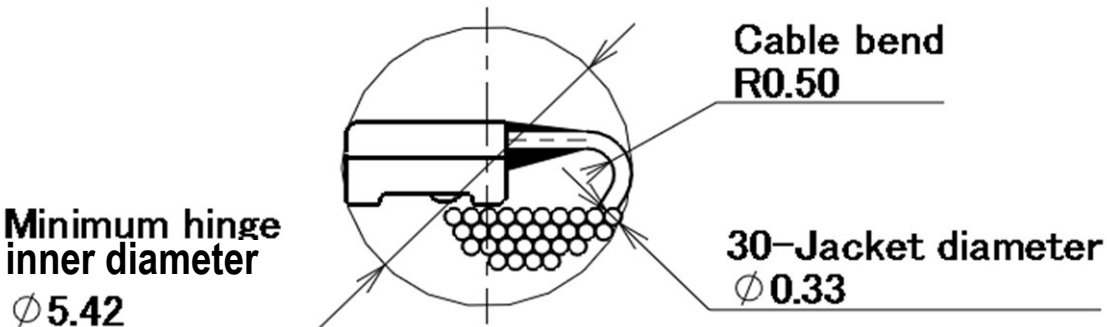


Fig.18 AWG#42 (50ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.1 With bonding

Simulation results with AWG #42 (50ohm).

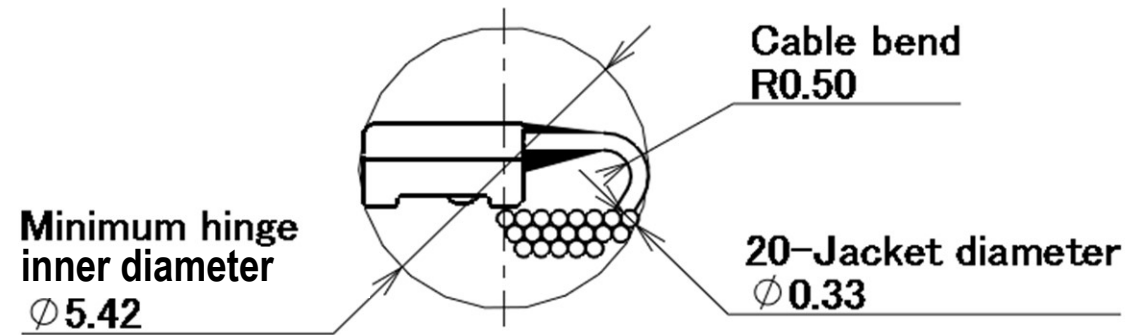


Fig.19 AWG#42 (50ohm) 20P

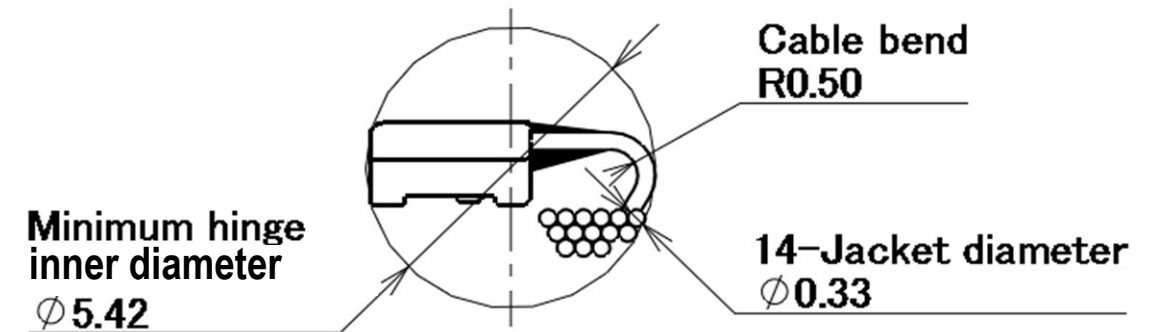


Fig.20 AWG#42 (50ohm) 14P

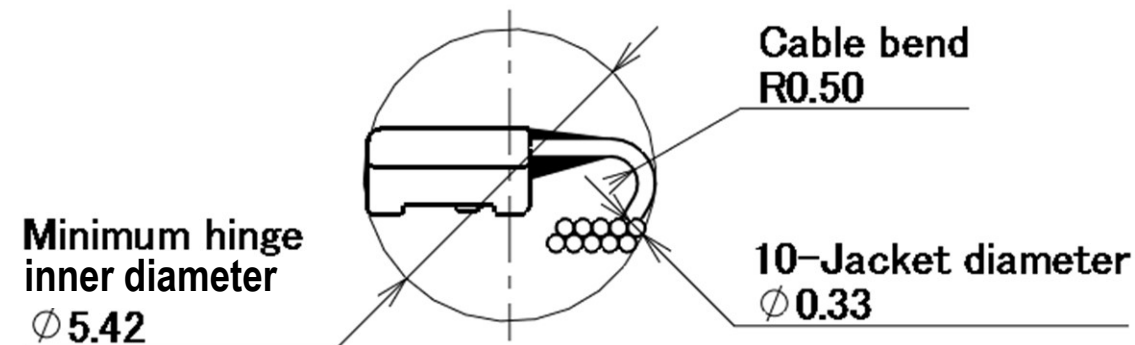


Fig.21 AWG#42 (50ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.1 With bonding
- Simulation results with AWG #42 (45ohm).

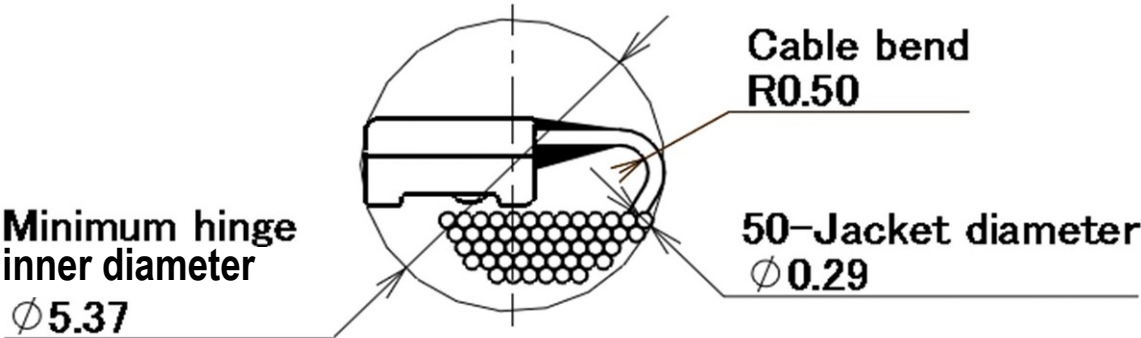


Fig.22 AWG#42 (45ohm) 50P

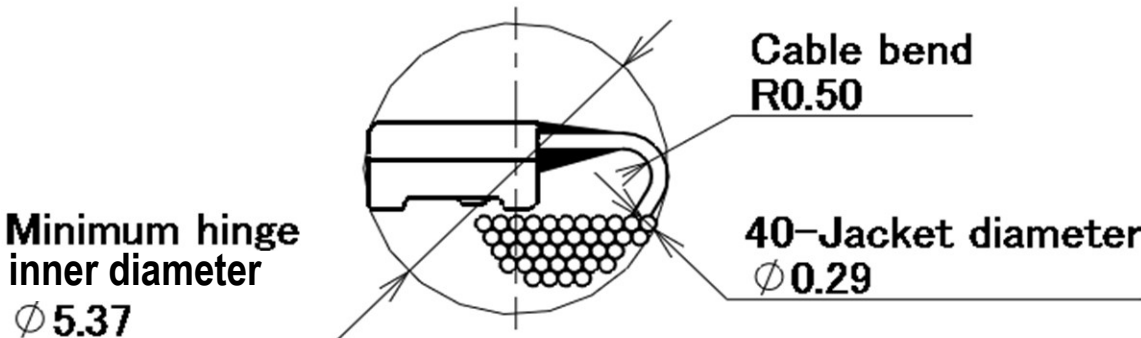


Fig.23 AWG#42 (45ohm) 40P

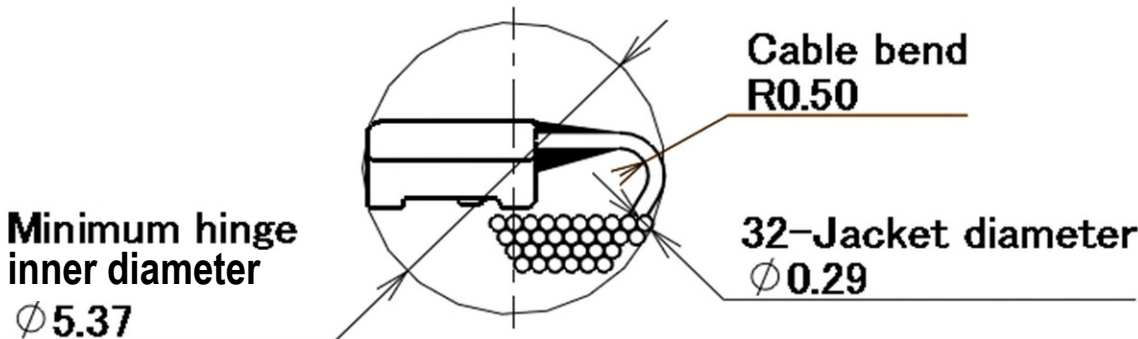


Fig.24 AWG#42 (45ohm) 32P

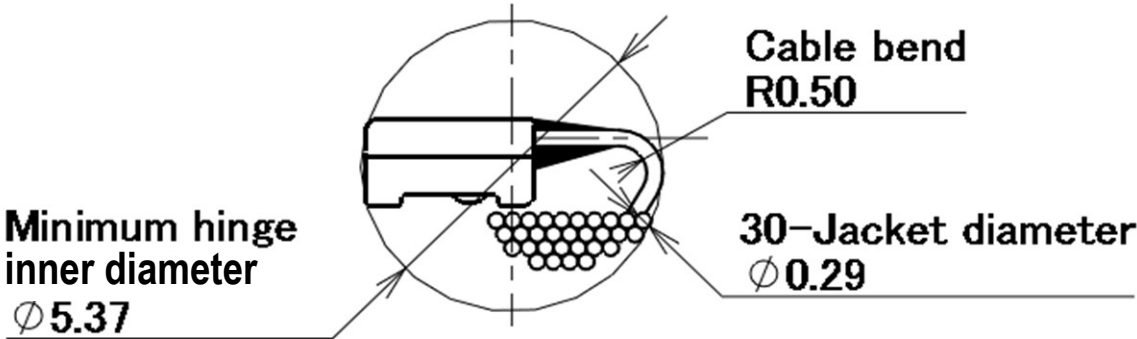


Fig.25 AWG#42 (45ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.1 With bonding
- Simulation results with AWG #42 (45ohm).

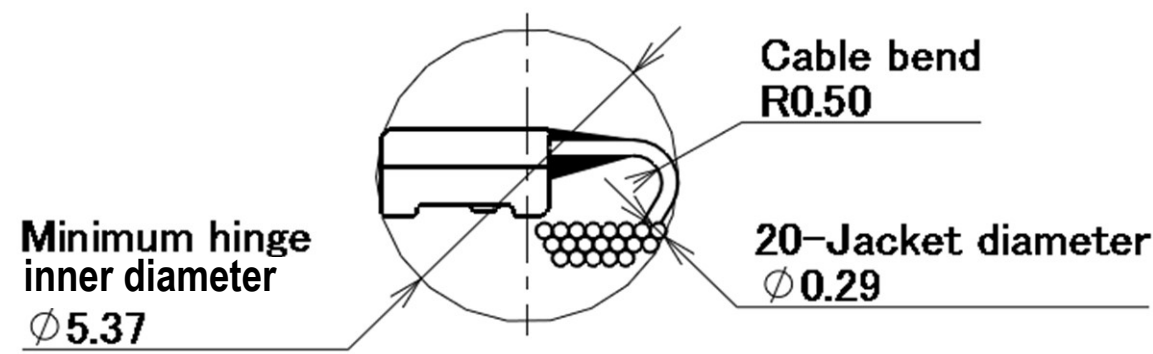


Fig.26 AWG#42 (45ohm) 20P

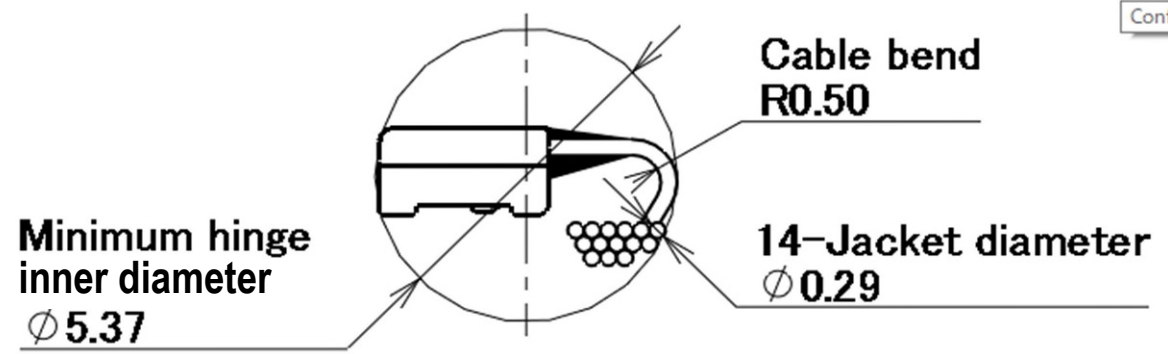


Fig.27 AWG#42 (45ohm) 14P

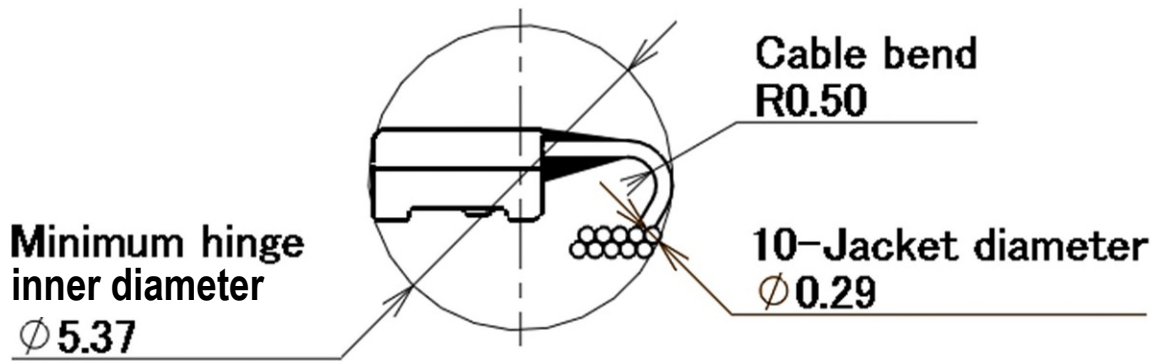


Fig.28 AWG#45 (50ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.2 Without bonding

Simulation results with AWG #40 (50ohm).

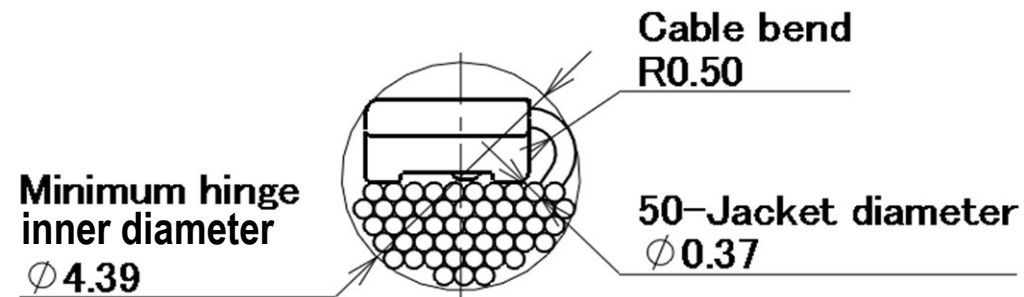


Fig.29 AWG#40 (50ohm) 50P

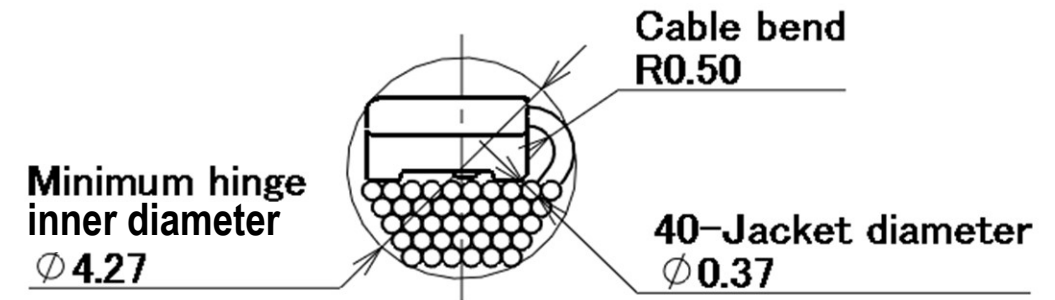


Fig.30 AWG#40 (50ohm) 40P

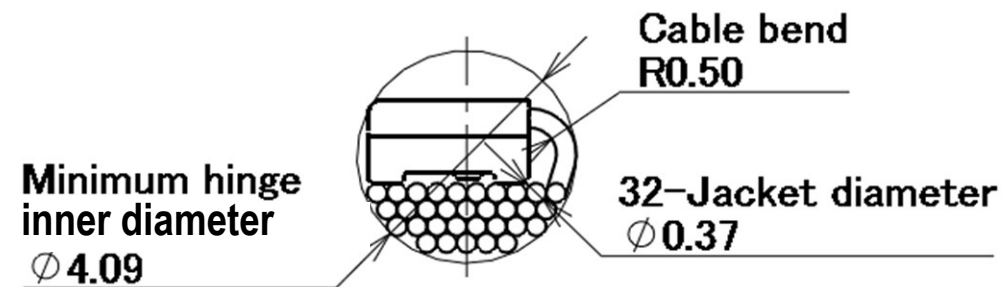


Fig.31 AWG#40 (50ohm) 32P

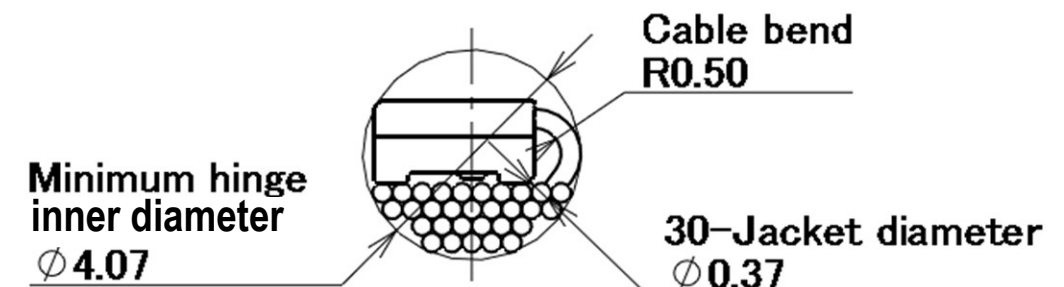


Fig.32 AWG#40 (50ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.2 Without bonding
- Simulation results with AWG #40 (50ohm).

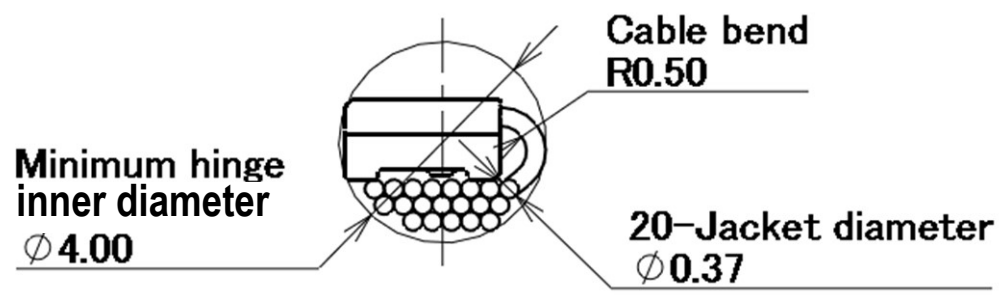


Fig.33 AWG#40 (50ohm) 20P

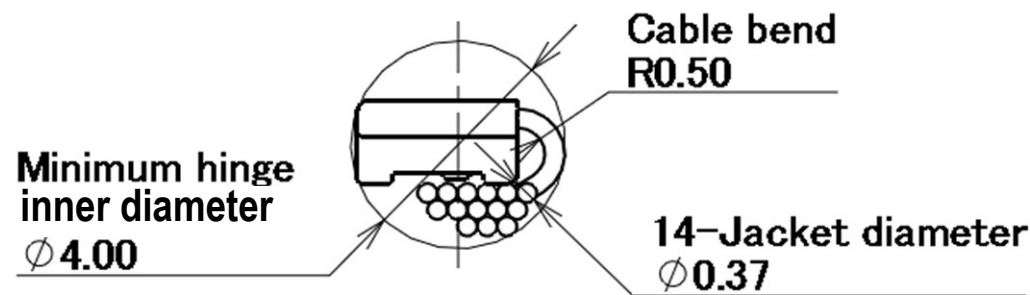


Fig.34 AWG#40 (50ohm) 14P

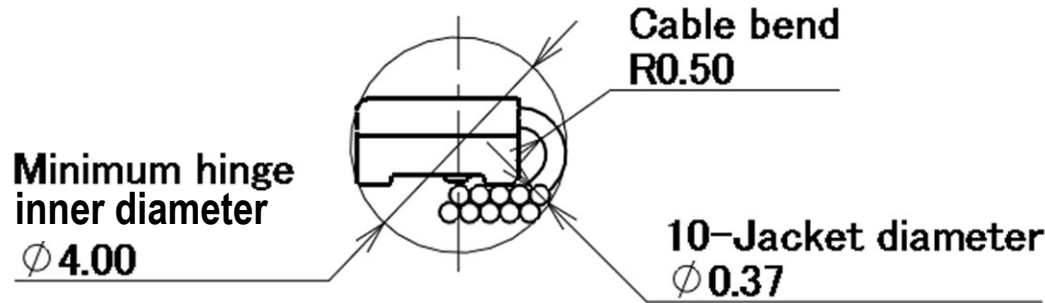


Fig.35 AWG#40 (50ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.2 Without bonding
- Simulation results with AWG #40 (45ohm).

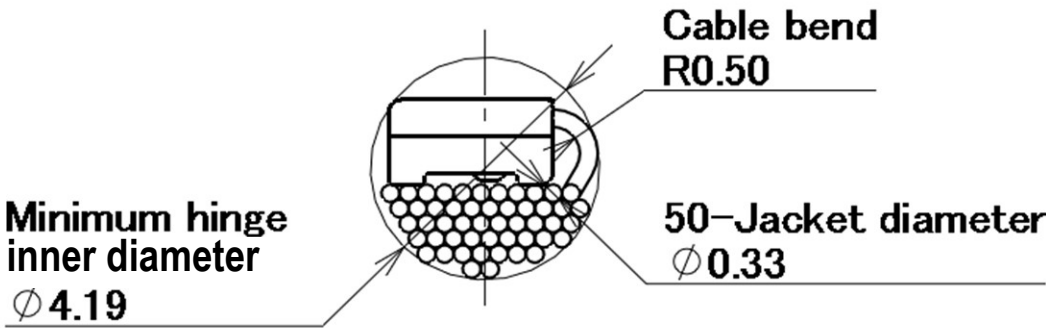


Fig.36 AWG#40 (45ohm) 50P

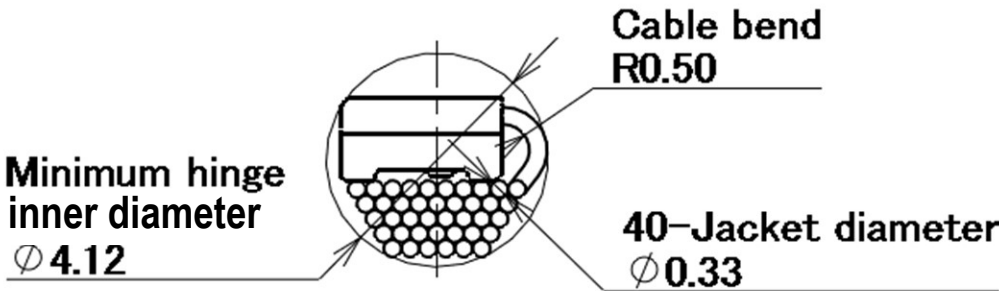


Fig.37 AWG#40 (45ohm) 40P

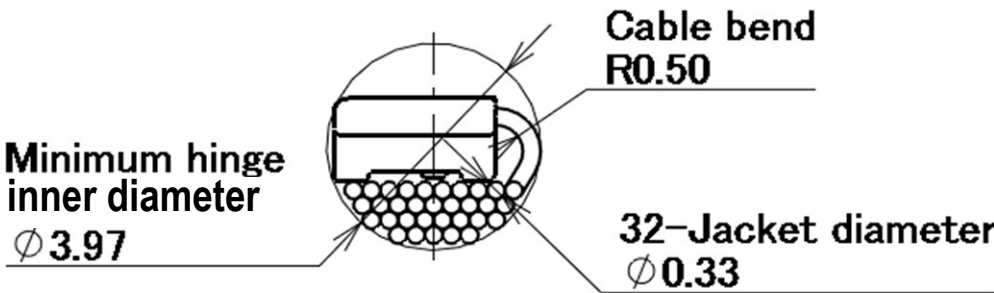


Fig.38 AWG#40 (45ohm) 32P

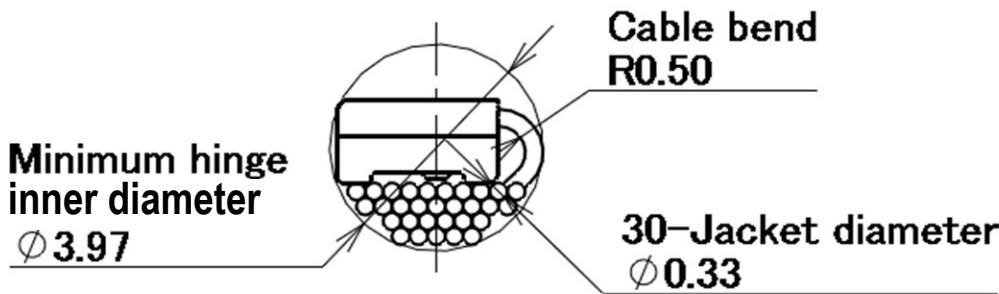


Fig.39 AWG#40 (45ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result
- 3.2 Without bonding
- Simulation results with AWG #40 (45ohm).

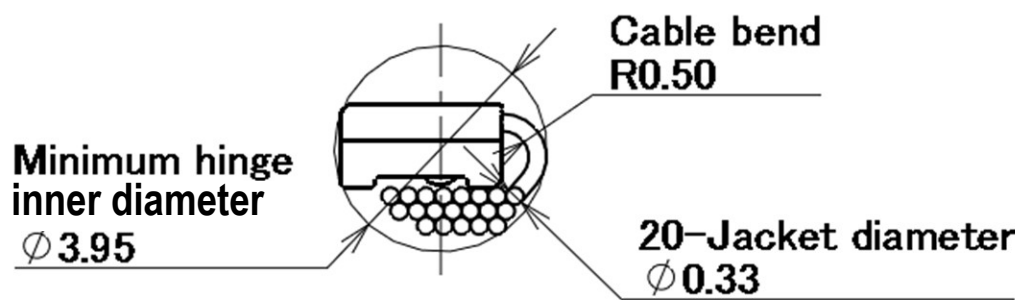


Fig.40 AWG#40 (45ohm) 20P

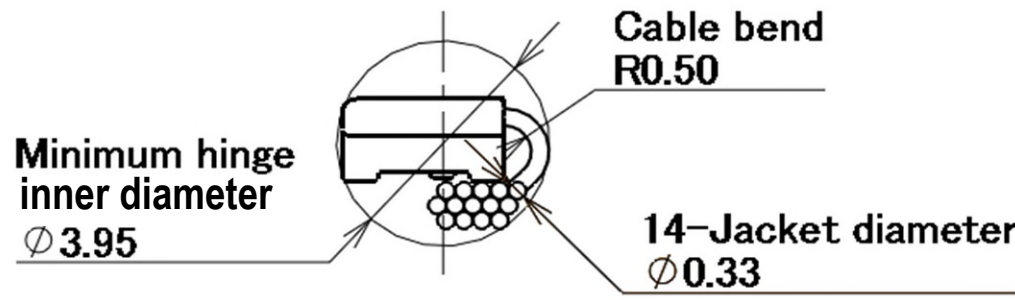


Fig.41 AWG#40 (45ohm) 14P

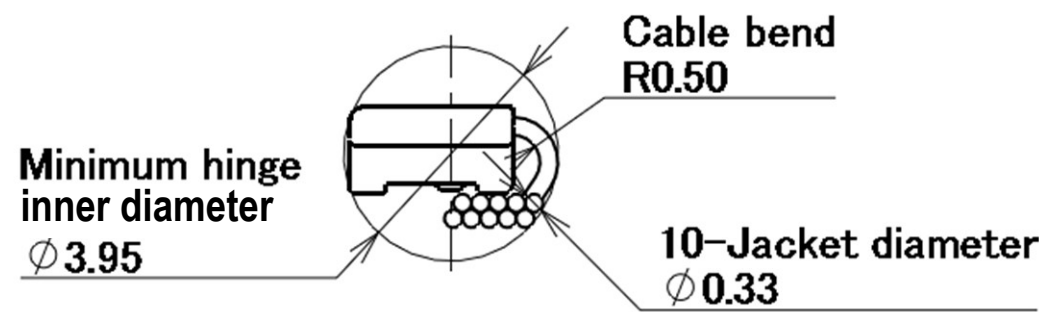


Fig.42 AWG#40 (45ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.2 Without bonding

Simulation results with AWG #42 (50ohm).

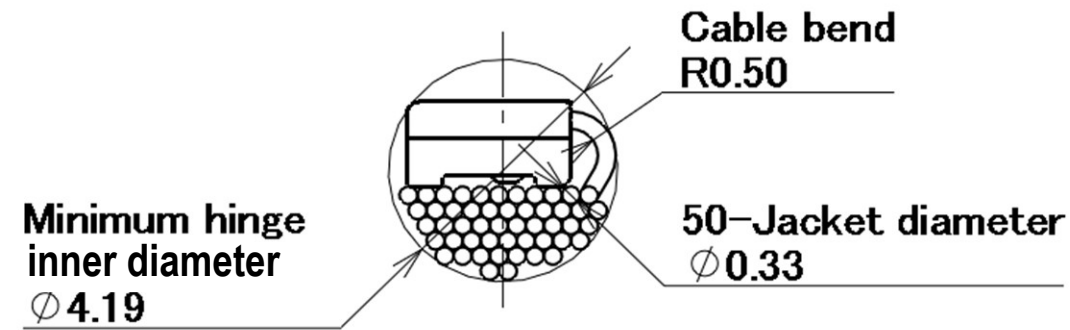


Fig.43 AWG#42 (50ohm) 50P

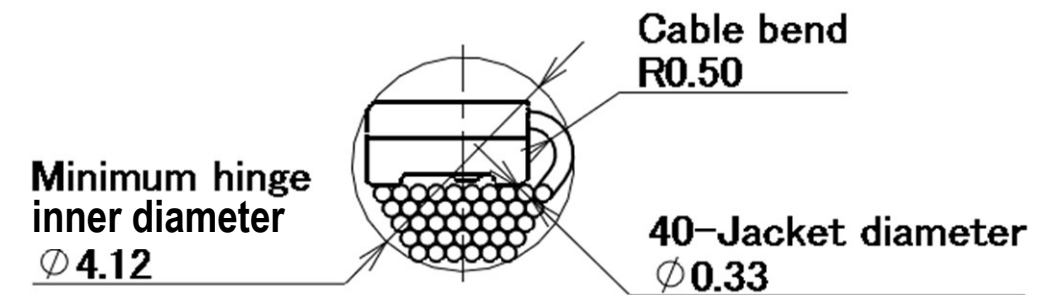


Fig.44 AWG#42 (50ohm) 40P

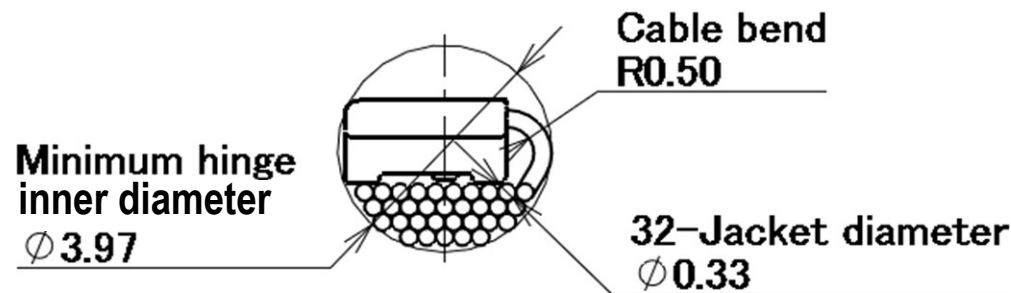


Fig.45 AWG#42 (50ohm) 32P

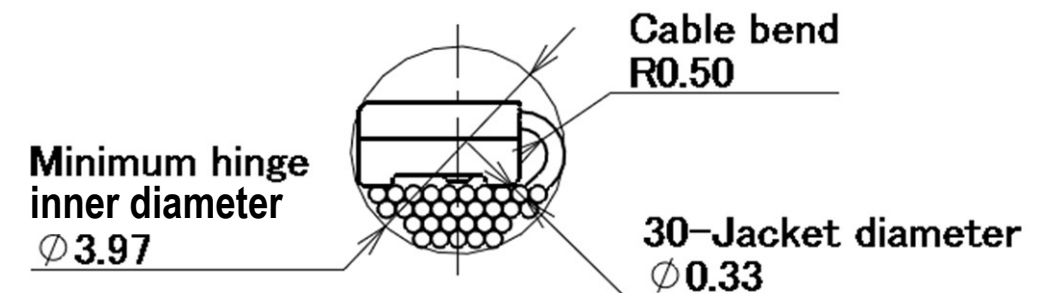


Fig.46 AWG#42 (50ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.2 Without bonding

Simulation results with AWG #42 (50ohm).

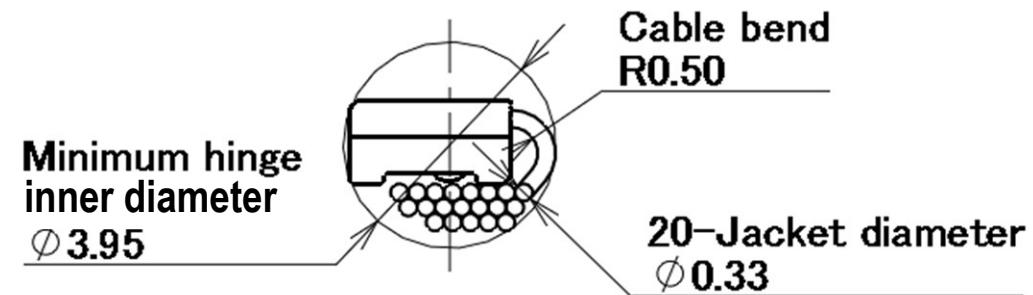


Fig.47 AWG#42 (50ohm) 20P

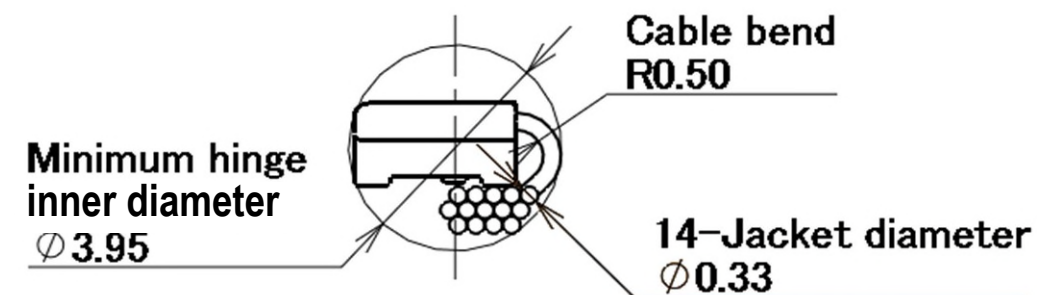


Fig.48 AWG#42 (50ohm) 14P

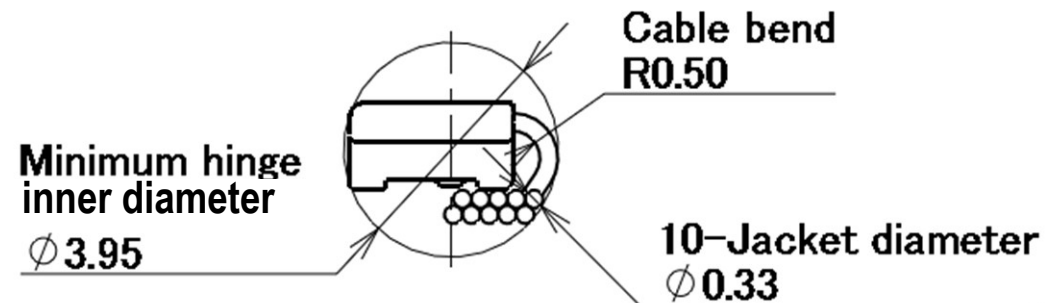


Fig.49 AWG#42 (50ohm) 10P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.2 Without bonding

Simulation results with AWG #42 (45ohm).

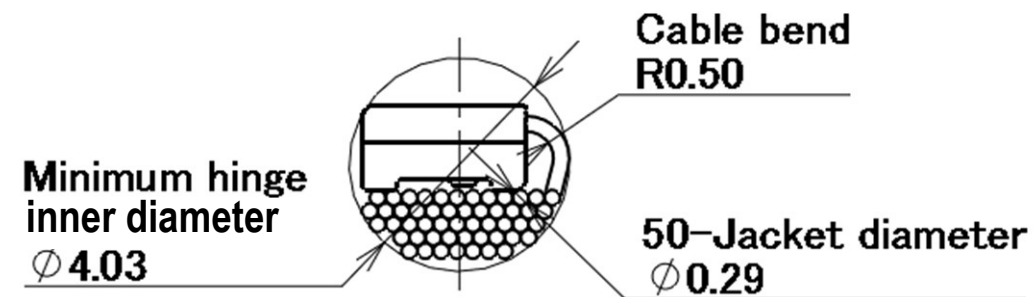


Fig.50 AWG#42 (45ohm) 50P

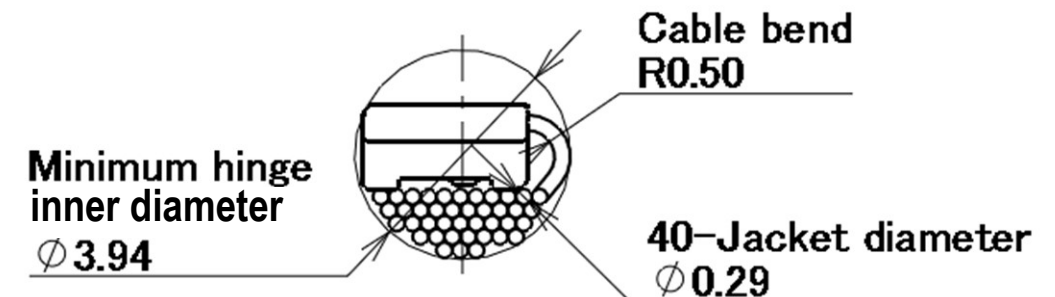


Fig.51 AWG#42 (45ohm) 40P

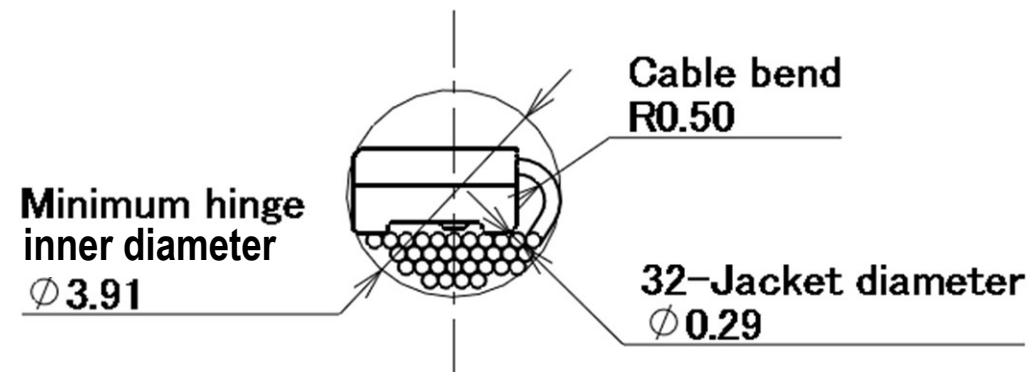


Fig.52 AWG#42 (45ohm) 32P

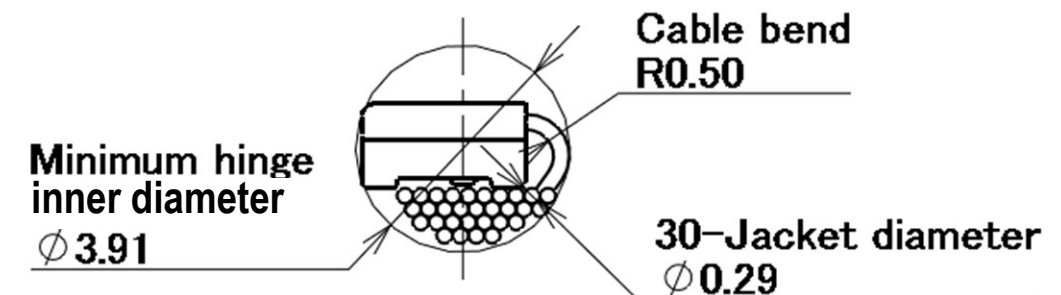


Fig.53 AWG#42 (45ohm) 30P

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CABLINE-SS The simulation of passing PLUG through hinge

3. Simulation result

3.2 Without bonding

Simulation results with AWG #42 (45ohm).

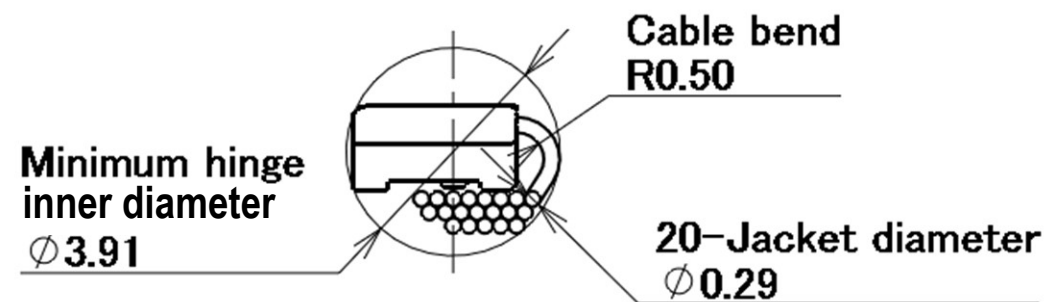


Fig.54 AWG#42 (45ohm) 20P

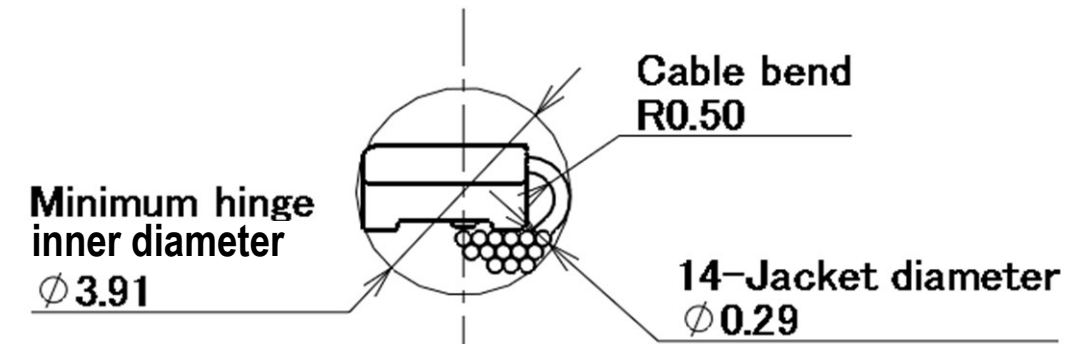


Fig.55 AWG#42 (45ohm) 14P

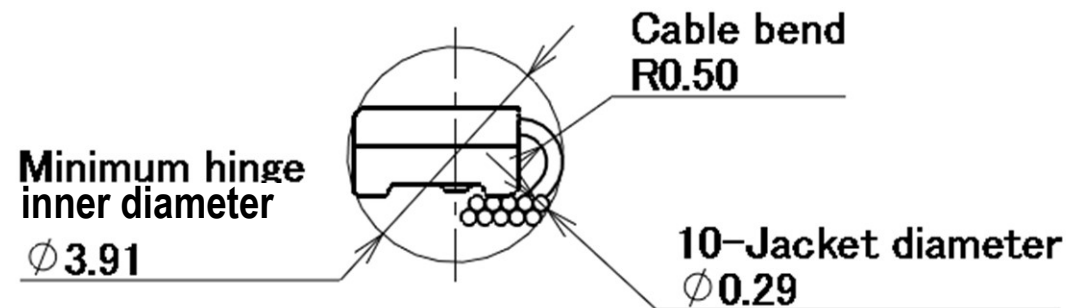


Fig.56 AWG#42 (45ohm) 10P

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I-PEX