CABLINE®-UM

The simulation of passing PLUG through hinge

Part No. Plug: 20877-0**T-0#

Technical Report

Rev.	ECN	Date	Prepared by	Checked by	Approved by
2	R26090	2026/02/13	R. Morita	M. Nakamura	H. Ikari
1	R23208	2023/05/10	K. Baba	R. Takei	H. Ikari
0	R21108	2021/02/19	S. Yamaguchi	-	H. Ikari

CABLINE-UM The simulation of passing PLUG through hinge

1. Purpose

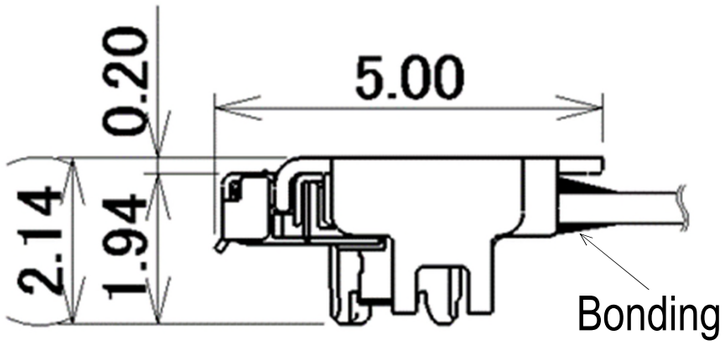
We report the simulation results of the minimum diameter of the hinge that can store the connector(CABLINE-UM Plug) and cable.

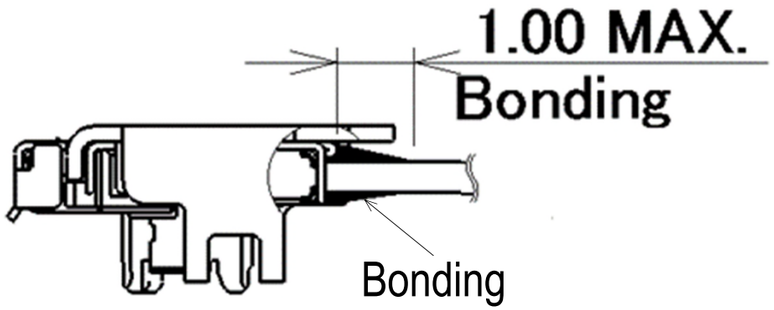
2. Simulation conditions

- Connector : CABLINE-UM PLUG CABLE ASS'Y (20877-0**T-0#)
  ※The simulation was performed at 20877-0 ** T-01. -02 and -03 have the same result as -01.
- Number of pins : 30P, 40P, 50P, 60P, 70P
- Cable : MICRO-COAX CABLE AWG#38,40,42,44 (See Table.1 for jacket diameter)
  ※Each simulation is connected to all Pins.
- Bonding : CABLINE-UM recommends bonding cable outlets.
  Be sure to bend the cable from the end of the bonding.

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

AWG#	Impedance matching	
	45ohm	50ohm
38	0.39	
40	0.33	0.37
42	0.29	0.33
44	0.24	0.26





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.

3. Simulation result

The simulation results are shown in Table.2.

※See the next page for details.

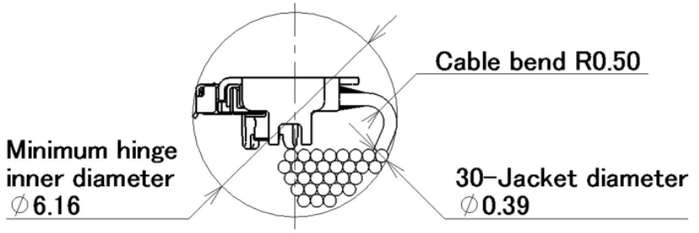
Table.2 Minimum hinge inner diameter (mm)

Cable	Size	AWG#38	AWG#40		AWG#42		AWG#44	
	Impedance matching	45ohm	45ohm	50ohm	45ohm	50ohm	45ohm	50ohm
	Jacket diameter	0.39	0.33	0.37	0.29	0.33	0.24	0.26
Minimum hinge inner diameter	30P	6.16	6.10	6.14	6.06	6.10	6.01	6.03
	40P	6.16	6.10	6.14	6.06	6.10	6.01	6.03
	50P	6.16	6.10	6.14	6.06	6.10	6.01	6.03
	60P	6.25	6.10	6.16	6.06	6.10	6.01	6.03
	70P	6.30	6.10	6.25	6.06	6.10	6.01	6.03

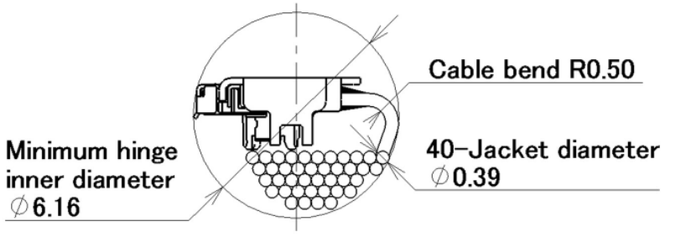
The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-UM The simulation of passing PLUG through hinge

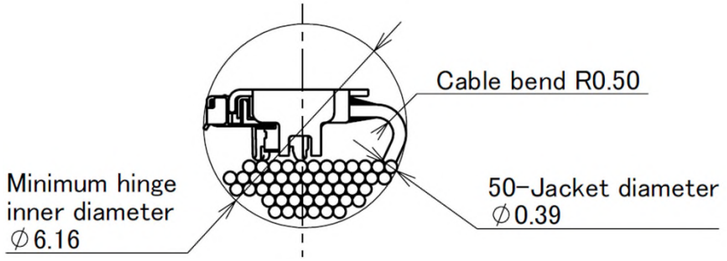
3. Simulation result
Simulation results with AWG #38.



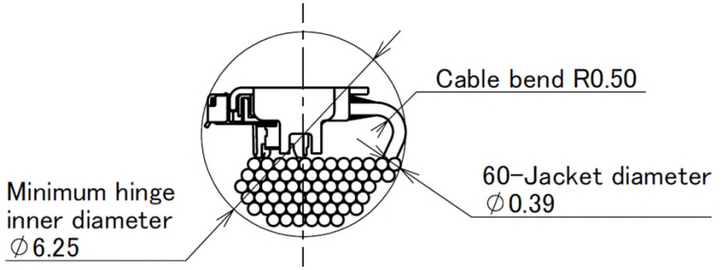
AWG#38 (45ohm) 30P



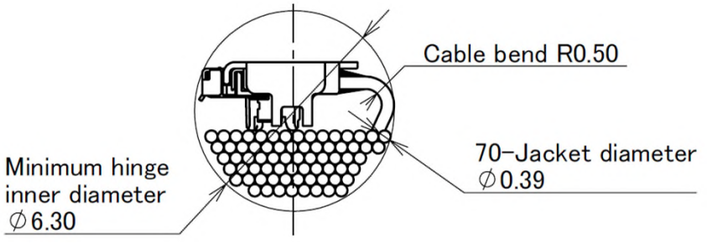
AWG#38 (45ohm) 40P



AWG#38 (45ohm) 50P



AWG#38 (45ohm) 60P

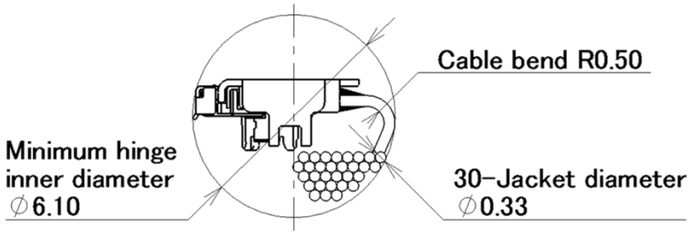


AWG#38 (45ohm) 70P

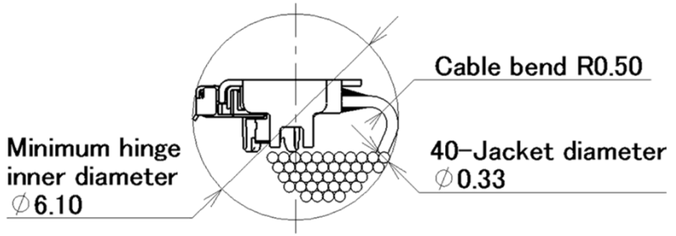
The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-UM The simulation of passing PLUG through hinge

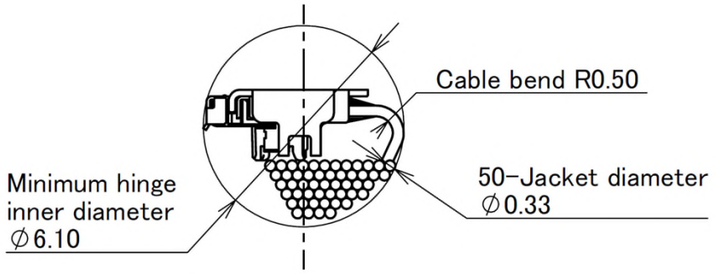
3. Simulation result
Simulation results with AWG #40 (45ohm).



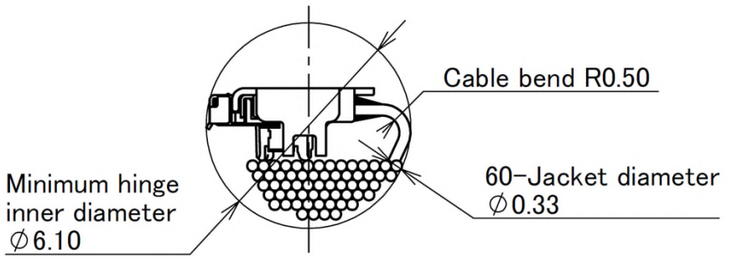
AWG#40 (45ohm) 30P



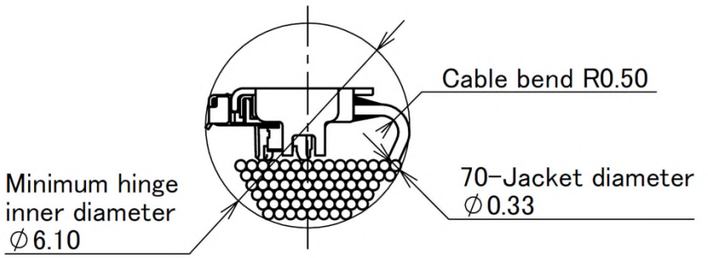
AWG#40 (45ohm) 40P



AWG#40 (45ohm) 50P



AWG#40 (45ohm) 60P

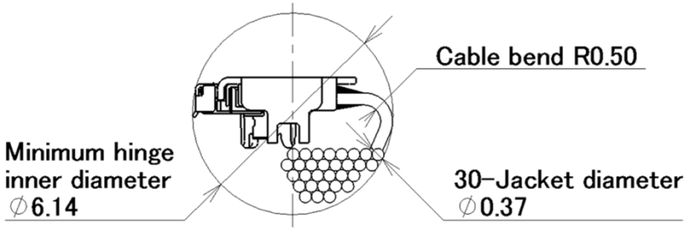


AWG#40 (45ohm) 70P

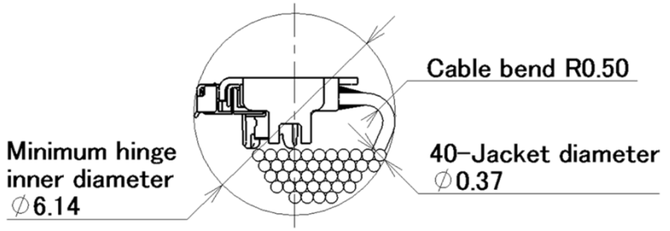
The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-UM The simulation of passing PLUG through hinge

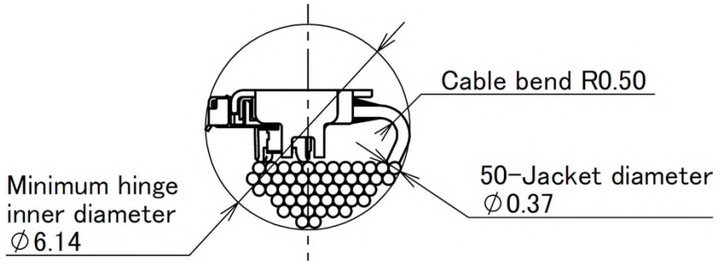
3. Simulation result
Simulation results with AWG #40 (50ohm).



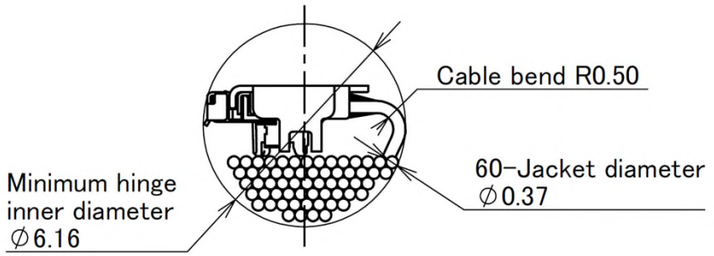
AWG#40 (50ohm) 30P



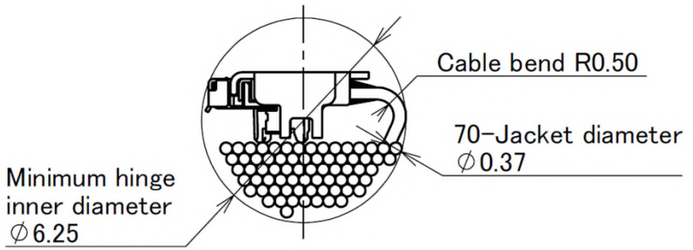
AWG#40 (50ohm) 40P



AWG#40 (50ohm) 50P



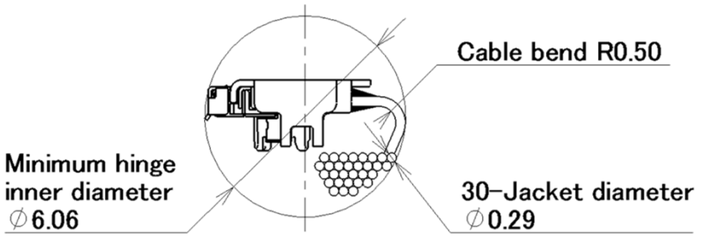
AWG#40 (50ohm) 60P



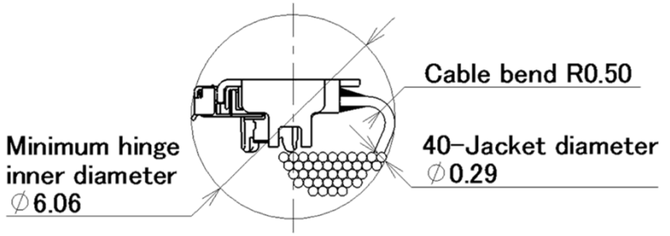
AWG#40 (50ohm) 70P

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.

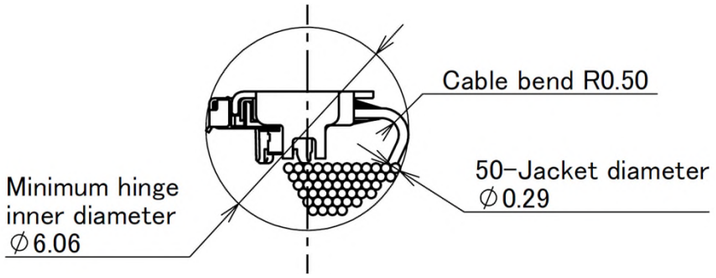
3. Simulation result
Simulation results with AWG #42 (45ohm).



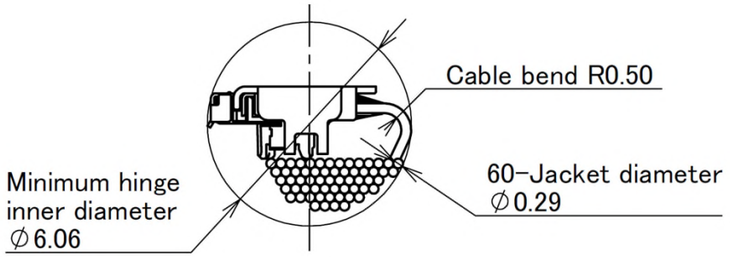
AWG#42 (45ohm) 30P



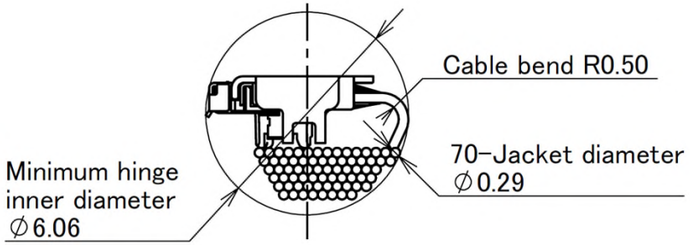
AWG#42 (45ohm) 40P



AWG#42 (45ohm) 50P



AWG#42 (45ohm) 60P

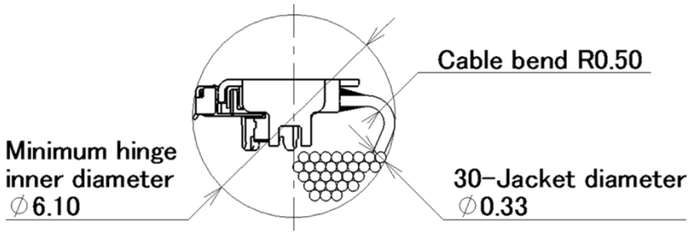


AWG#42 (45ohm) 70P

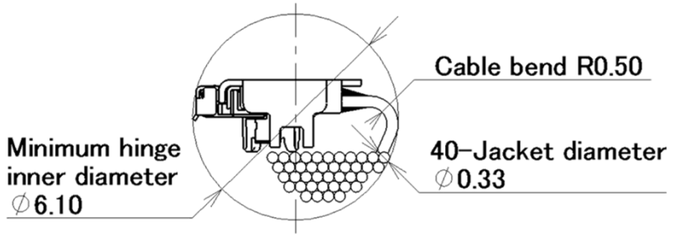
The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-UM The simulation of passing PLUG through hinge

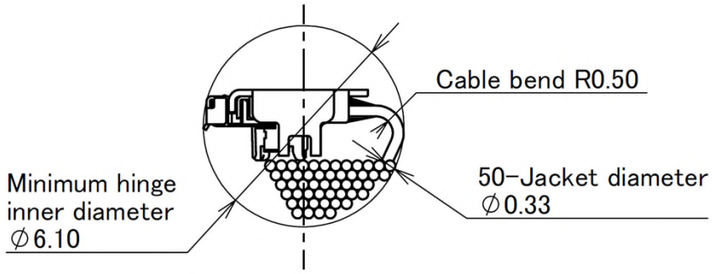
3. Simulation result
Simulation results with AWG #42 (50ohm).



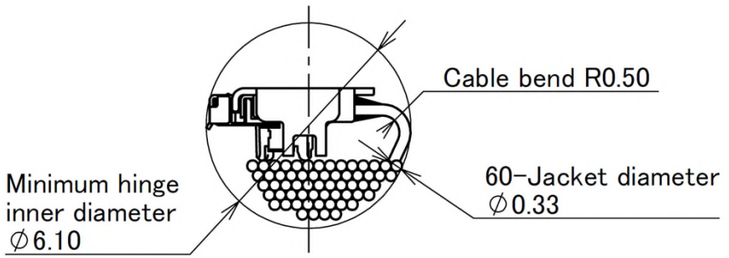
AWG#42 (50ohm) 30P



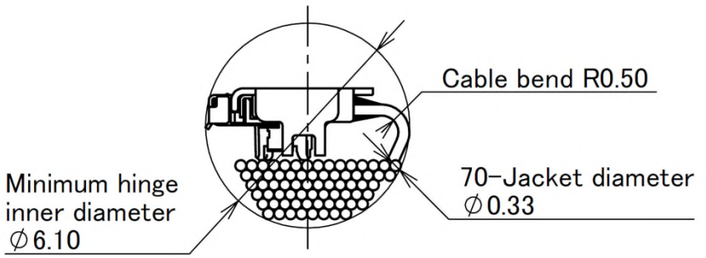
AWG#42 (50ohm) 40P



AWG#42 (50ohm) 50P



AWG#42 (50ohm) 60P

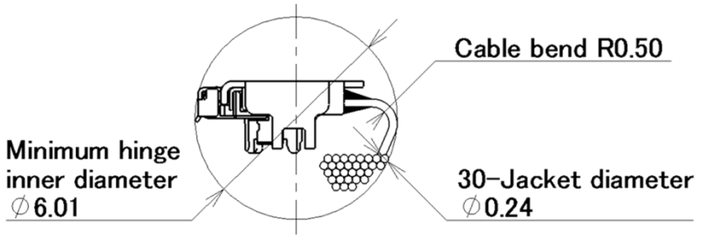


AWG#42 (50ohm) 70P

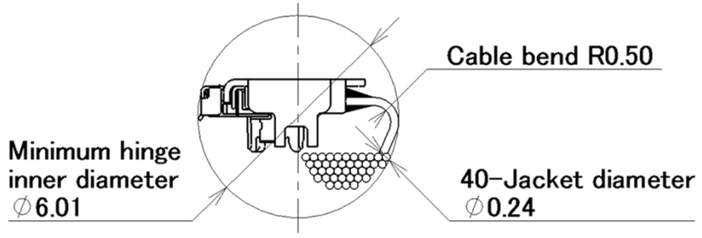
The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-UM The simulation of passing PLUG through hinge

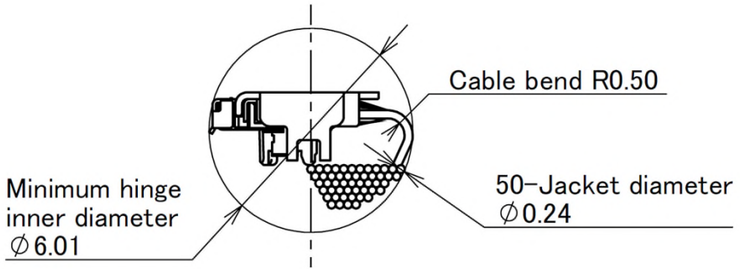
3. Simulation result
Simulation results with AWG #44 (45ohm).



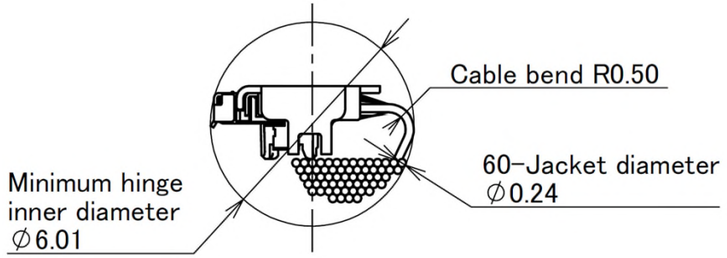
AWG#44 (45ohm) 30P



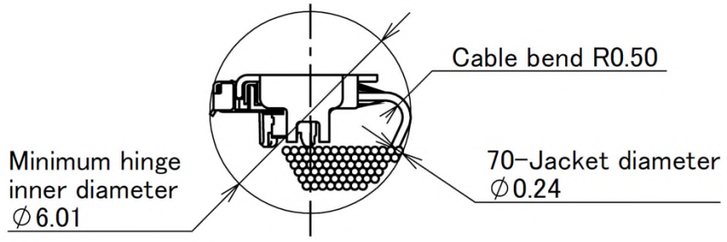
AWG#44 (45ohm) 40P



AWG#44 (45ohm) 50P



AWG#44 (45ohm) 60P

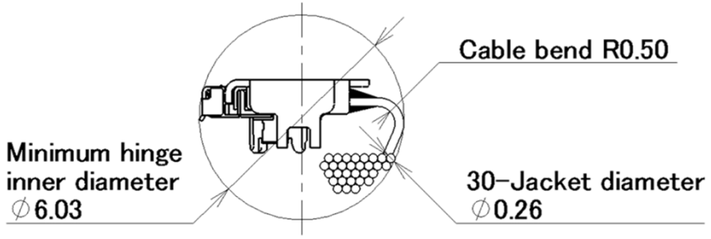


AWG#44 (45ohm) 70P

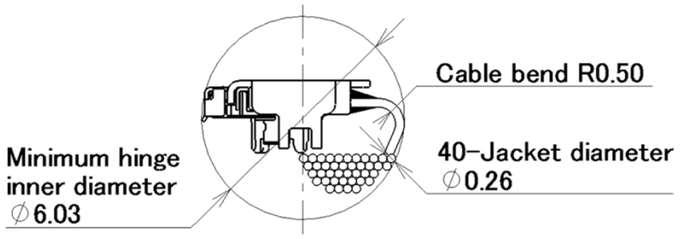
The simulation results presented in this report are not guaranteed. The diameter of the hinge that can be passed through may vary depending on the processing method of the harness and the type of cables used. Please use the results as a reference value. Furthermore, the utilization of bonding is recommended.

CABLINE-UM The simulation of passing PLUG through hinge

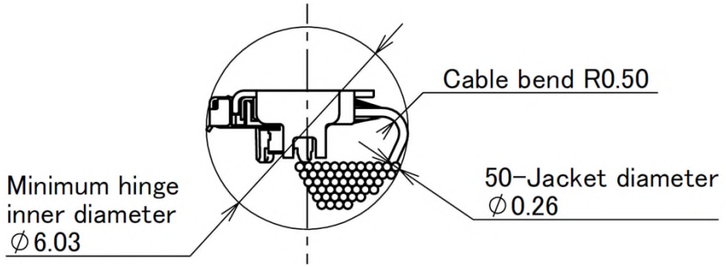
3. Simulation result
Simulation results with AWG #44 (50ohm).



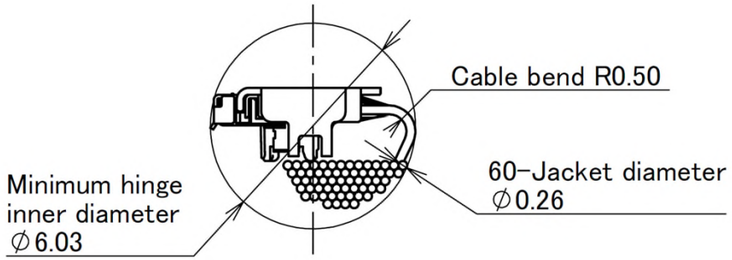
AWG#44 (50ohm) 30P



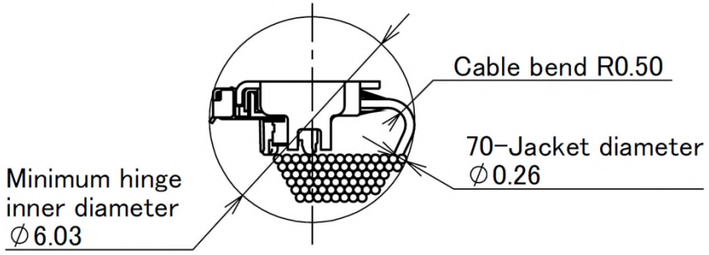
AWG#44 (50ohm) 40P



AWG#44 (50ohm) 50P



AWG#44 (50ohm) 60P



AWG#44 (50ohm) 70P

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-UM The simulation of passing PLUG through hinge