INNOBIZ ISO 9001 JAS-ANZ CE

ES-TECH
INTERNATIONAL
SOLUTION

CONNECTING THE POWERED LIFE

Coaxial Feeder Cable Solution

ES-TECH International is a technology company specialized in providing solutions for communication & Infrastructure.

Delivering proactive and proven solutions and services that help networks around the world. ES-TECH International provides solutions for broadcasting, broadband, network power and cables, especially optical/coaxial cable and comprehensive power solutions.

To keep pace with rapid changing market, ES-TECH International is expanding structured cable system/intelligence building system and network solution field by continuously developing new products through aggressive investment for R&D.

At the same time, ES-TECH International is developing new items by cooperating with Global Corporation, as well as developing its own brand to expand overseas market.

ES-TECH International will be always with you with state of the art solution which is your way to happiness.

ESCABLE

www.es-tech.com

E S - T E C H I N T E R N A T I O N A L

Introduction of Business

ES-TECH International Solutions

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Fiber Optics

Distribution Cable
Breakout Cable
Simplex and Duplex
Drop Cable
Multi Loose Tube Cable
Adss Cable
Ribbon Cable

Broadbanding

AV Cabling Solution
SMPTE Camera Solution
AV Patching Solution

Networking

IBDN cabling solution
HFC Network solution
Network Consulting

Cables

Coax Cable
UTP Cable
Coaxial Connector

Power Supply

Square Wave UPS/PS
Sine Wave UPS/PS
Rack UPS
APD
STS
AVR

Broadband

FTTX Infra Structured
FTTH Solution
Device & Equipment

Telco

DATA Center
Core Networks
Mobile Networks
Microwave Technology

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E S - T E C H I N T E R N A T I O N A L

ES-TECH/INTERNATIONAL,Inc.

Growing together with creative company culture.

Amid the fast pace change in the management business environment, ES-TECH International is embarking on a new journey toward sustainable growth for creation of the customer values.

ES-TECH international is a technology company specialized in providing solutions for communication & Infrastructure.

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ESCABLE

Company History

The below is the footprint of ES-TECH international

Company Scene

Product Line

Product Line

Product Cables

2017
Certification of "World-class product" from Ministry of Industry and Trade on Uninterruptible Power Supply for communication.
Nominated as a Military Service Designated Company (Industry) by Military Manpower Administrations.

2016
Certification of Youth-friendly 'Small Hidden Champion'
Certification of Gyeong-gi ProvinceJob Recognition Excellent Company.
Completion of new head office construction in Suwon Industrial Complex.
Nominated as a Gyeong-gi Province Women Employment Excellent Company.

2015
Expand further for fiber optic cable / Launched ESCABLE brand
Verification of greenhouse gas inventory. (carbon management system ISO14064)

2014
Selected the best company to work for by SMBA
(Small and Medium Business Administration)

2013
Selected promising small & medium business by Gyeonggi-Do Provincial Government
Submitted a new design for practical use to KIPO (Korean Intellectual Property Office)
Submitted design patent of 'Hole kit' for communication cable distributor to KIPO
(Korean Intellectual Property Office)

2012
Selected best small & medium business to work for
Selected as 'a venture business' by small & medium business administration.
Awarded design award by Gyonggi province governor.

2010
Developed STS
Developed ground mount enclosure
Achieved the patent of 'dual power distribution equipment'.
Achieved the patent for rack type server system power distribution equipment

2008
Developed CATV line UPS of SUN & MOON series.
Developed small sized power supply for apartment building.
Obtained 'annex research institute certification' by KOITA
Obtained 'Innobiz certification' by small & medium business administration.

2007
Obtained 'small & medium size business certification' by administration
Obtained ISO 9001:2000 certifications

2005
Converted to corporation (ES-TECH international Inc.)
Developed APT (Auto Power Distributor)

2004
Developed CATV line UPS

2002
ES TECH NOLOGY was founded

Fiber Optics Power Broadcasting Broadband Networking Telco Cable

ESTECH INTERNATIONAL

High Quality Total
Communication Solutions

ES-TECH INTERNATIONAL

COAXIAL FEEDER CABLES

CONTENTS

Flexible 1/2"

ESRF-HFC12D / ESRF-HFC12D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Annuary Corrugated Copper
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	4.8 ± 0.1mm
Dielectric	
Outer Conductor	13.8 ± 0.1mm
Jacket thickness	〉0.83mm
Cable Diameter	16 ± 0.5mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	1.21
50	1.57
100	2.24
200	3.23
300	4.00
400	4.66
450	5.00
500	5.26
800	6.79
900	7.50
1000	7.68
1500	9.61
1800	10.70
2000	11.30
2300	12.00
2400	12.30
2500	13.40

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.63 Ω/㎞
Outer Conductor Resistance	〈 2.09 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC4000V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	25KW
Velocity of Signal Propagation	〉88%
Inter-modulation (PIMD)	〉-155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	70mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Flexible 7/8"

ESRF-HFC22D / ESRF-HFC22D-FR

CONSTRUCTION MATERIALS

Center conductor	Solid Copper tube	Outer Conductor	Annuary Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	9.0 ± 0.2mm
Center conductor thickness	0.4 ± 0.1mm
Center conductor inner diameter	8.3 ± 0.2mm
Outer Conductor	24.9 ± 0.2mm
Jacket thickness	〉1.2mm
Cable Diameter	27.9 ± 0.6mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.5 Ω/㎞
Outer Conductor Resistance	〈 1.6 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC6000V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	91KW
Velocity of Signal Propagation	〉88%
Inter-modulation (PIMD)	〉-155dBc

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	0.65
50	0.85
100	1.21
200	1.76
300	2.18
400	2.56
450	2.80
500	2.90
800	3.78
900	4.10
1000	4.30
1500	5.45
1800	6.10
2000	6.46
2300	6.70
2400	6.80
2500	7.00

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	100KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	250mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Flexible 1-1/4"

ESRF-HFC33D / ESRF-HFC33D-FR

CONSTRUCTION MATERIALS

Center conductor	Solid Copper tube	Outer Conductor	Annuary Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	13.1 ± 0.2mm
Center conductor thickness	0.635 ± 0.1mm
Dielectric	–
Outer Conductor	36.0 ± 0.2mm
Jacket thickness	〉1.05mm
Cable Diameter	39.0 ± 0.5mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	–
Outer Conductor Resistance	〈 0.50 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km for 1min
Dielectric Withstand Voltage	DC10,000V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.1
Peak Power Rating	205KW
Velocity of Signal Propagation	〉88%
Inter-modulation (PIMD)	〉-155dBc

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	0.49
50	0.63
100	0.91
200	1.30
300	1.62
400	1.90
450	2.10
500	2.15
800	2.79
900	3.00
1000	3.17
1500	4.02
1800	4.60
2000	4.77
2300	4.90
2400	5.00
2500	5.30

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	100KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	250mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Flexible 1-5/8"

ESRF-HFC42D / ESRF-HFC42D-FR

CONSTRUCTION MATERIALS

Center conductor	Helically Corrugated Copper Tube	Outer Conductor	Annuary Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	17.2 ± 0.2mm
Center conductor thickness	0.45 ± 0.1mm
Dielectric	–
Outer Conductor	46.5 ± 0.4mm
Jacket thickness	〉1.05mm
Cable Diameter	50.0 ± 1.0mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 0.90 Ω/㎞
Outer Conductor Resistance	〈 0.41 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC12,000V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	91KW
Velocity of Signal Propagation	〉88%
Inter-modulation (PIMD)	〉-155dBc

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	0.40
50	0.52
100	0.74
200	1.08
300	1.35
400	1.58
450	1.79
500	1.70
800	2.36
900	2.50
1000	2.69
1500	3.44
1800	3.90
2000	4.10
2300	4.20
2400	4.30
2500	4.40

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	100KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	350mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Super Flexible 1/4"

ESRF-HFS6D / ESRF-HFS6D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	1.85 ± 0.2mm
Dielectric	–
Outer Conductor	6.35 ± 0.15mm
Jacket thickness	–
Cable Diameter	7.5 ± 0.2mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	3.00
50	3.90
100	5.58
200	8.01
300	9.92
400	11.56
500	13.03
800	16.80
1000	18.98
1500	23.78
2000	27.97
2500	31.77

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 8.0 Ω/㎞
Outer Conductor Resistance	〈 6.60 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC1,600V
Impedance	50±2 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	3.6KW
Velocity of Signal Propagation	〉82%
Inter-modulation (PIMD)	〉–155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	30mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	–40℃~+70℃

Super Flexible 3/8"

ESRF-HFS10D / ESRF-HFS10D-FR

CONSTRUCTION MATERIALS

Center conductor	Solid Copper tube	Outer Conductor	Annuary Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	2.60 ± 0.2mm
Dielectric	–
Outer Conductor	9.10 ± 0.2mm
Jacket thickness	–
Cable Diameter	10.3mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	2.61
50	3.11
100	4.09
200	5.59
300	6.84
400	7.96
500	9.00
800	11.79
1000	13.50
1500	17.43
2000	21.06
2500	24.51

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 3.5 Ω/㎞
Outer Conductor Resistance	〈 5.6 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC2,300V
Impedance	50±2 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	8KW
Velocity of Signal Propagation	〉82%
Inter-modulation (PIMD)	〉–155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	30mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	–40℃~+70℃

Super Flexible 1/2"

ESRF-HFS12D / ESRF-HFS12D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	3.6 ± 0.1mm
Dielectric	–
Outer Conductor	12.2 ± 0.2mm
Jacket thickness	〉0.53mm
Cable Diameter	13.6 ± 0.3mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	1.84
50	2.39
100	3.44
200	4.92
300	6.12
400	7.14
500	8.06
800	10.50
1000	11.90
1500	15.00
2000	17.70
2400	19.30

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 2.90 Ω/㎞
Outer Conductor Resistance	〈 3.60 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC2,500V
Impedance	50±2 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	15KW
Velocity of Signal Propagation	〉83%
Inter-modulation (PIMD)	〉-155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	30mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Super Flexible 7/8"

ESRF-HFS22D / ESRF-HFS22D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	9.40 ± 0.2mm
Dielectric	–
Outer Conductor	25.0 ± 0.2mm
Jacket thickness	–
Cable Diameter	27.7mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	0.69
50	0.90
100	1.29
200	1.85
300	2.29
400	2.68
500	3.02
800	3.89
1000	4.40
1500	5.52
2000	6.49
2500	7.38

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 3.0 Ω/㎞
Outer Conductor Resistance	〈 1.0 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC6,000V
Impedance	50±2 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	8KW
Velocity of Signal Propagation	〉88%
Inter-modulation (PIMD)	〉-155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	30mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Flexible Al 1/2"

ESRF-HFA12D / ESRF-HFA12D-FR

CONSTRUCTION MATERIALS

Center conductor	Solid copper or Copper Clad Aluminum	Outer Conductor	Al-Strip, alloy 1350, 1100, AL purity 〉99.5% Corrugated Aluminum Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	4.8 ± 0.1mm
Dielectric	N/A
Outer Conductor	13.8 ± 0.1mm
Jacket thickness	N/A
Cable Diameter	16.0 ± 0.5mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.8 Ω/㎞
Outer Conductor Resistance	〈 3.0 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC4,000V
Impedance	50±1 Ω (〈2500㎒)
VSWR	〈 1.2 (800MHz~2.5GHz, 100m)
Peak Power Rating	≥ 25KW
Velocity of Signal Propagation	≥ 87%
Inter-modulation (PIMD)	≤ -155dBc

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	< 1.40
450	< 5.50
800	< 7.50
900	< 7.90
1000	< 8.40
1500	< 10.40
1800	< 11.50
2000	< 12.10
2300	< 13.10
2400	< 13.40
2500	< 13.70

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	≥30Kgf/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	≤ 125mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Flexible Al 7/8"

ESRF-HFA22D / ESRF-HFA22D-FR

CONSTRUCTION MATERIALS

Center conductor	Solid Copper Tube	Outer Conductor	Al-Strip, alloy 1350, 1100, AL purity 〉99.5% Corrugated Aluminum Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	9.2 ± 0.2mm
Dielectric	N/A
Outer Conductor	24.9 ± 0.2mm
Jacket thickness	N/A
Cable Diameter	27.9 ± 0.6mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.9 Ω/㎞
Outer Conductor Resistance	〈 2.0 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC6,000V
Impedance	50±1 Ω (〈2500㎒)
VSWR	〈 1.2 (800MHz~2.5GHz, 100m)
Peak Power Rating	≥ 56KW
Velocity of Signal Propagation	≥ 88%
Inter-modulation (PIMD)	≤ -155dBc

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	< 0.80
450	< 3.00
800	< 4.00
900	< 4.30
1000	< 4.50
1500	< 5.60
1800	< 6.20
2000	< 6.60
2300	< 7.10
2400	< 7.30
2500	< 7.40

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	≥50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	≤ 250mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Radiating 1/2"

ESRF-HRT12D / ESRF-HRT12D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	4.8 ± 0.2m
Dielectric	12.0m
Outer Conductor	13.8m
Cable Diameter	16.0m

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.6 Ω/㎞
Outer Conductor Resistance	〈 2.95 Ω/㎞
Insulation Resistance	〉10,000 MΩ/km
Dielectric Withstand Voltage	4000V
Impedance	50±2 Ω
VSWR(30~2,700㎒)	〈 1.3
Velocity of Signal Propagation	≥ 88%

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
75	< 2.3dB
150	< 3.3dB
450	< 6.0dB
800	< 8.2dB
900	< 8.8dB
1800	< 13.4dB
2000	< 14.8dB
2200	< 15.2dB
2400	< 15.9dB

Coupling loss (dB/90%)

Frequency (MHz)	Maximum (dB/100 m)
75	80dB
150	80dB
450	80dB
800	80dB
900	80dB
1800	85dB
2000	85dB
2200	85dB
2400	85dB

Mechanical Specifications

Adhesive Strength	Flexibility	Mininum Bending Radius
≥50KgF/m	Repeat 10 times	≤ 125mm

Radiating 7/8"

ESRF-HRT22D / ESRF-HRT22D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Copper Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	9.45 ± 0.2mm
Dielectric	23.0mm
Outer Conductor	25.2mm
Cable Diameter	28.2mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.9 Ω/㎞
Outer Conductor Resistance	〈 1.9 Ω/㎞
Insulation Resistance	〉10,000 MΩ/km
Dielectric Withstand Voltage	6000V
Impedance	50±2 Ω
VSWR(30~2,700㎒)	〈 1.3
Velocity of Signal Propagation	≥ 88%

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
75	< 1.3dB
150	< 1.8dB
450	< 3.2dB
800	< 4.6dB
900	< 4.8dB
1800	< 7.4dB
2000	< 7.8dB
2200	< 8.2dB
2400	< 8.7dB

Coupling loss (dB/90%)

Frequency (MHz)	Maximum (dB/100 m)
75	80dB
150	80dB
450	80dB
800	80dB
900	80dB
1800	85dB
2000	85dB
2200	85dB
2400	85dB

Mechanical Specifications

Adhesive Strength	Flexibility	Mininum Bending Radius
≥50KgF/m	Repeat 10 times	≤ 250mm

Radiating 1/2"

ESRF-HRA12D / ESRF-HRA12D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Aluminum Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	4.8 ± 0.2m
Dielectric	12.0m
Outer Conductor	13.8m
Cable Diameter	16.0m

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.6 Ω/㎞
Outer Conductor Resistance	〈 2.95 Ω/㎞
Insulation Resistance	〉10,000 MΩ/km
Dielectric Withstand Voltage	4000V
Impedance	50±2 Ω
VSWR(30~2,700㎒)	〈 1.3
Velocity of Signal Propagation	≥ 88%

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
75	< 2.3dB
150	< 3.4dB
450	< 6.2dB
800	< 8.4dB
900	< 9.0dB
1800	< 13.8dB
2000	< 15.2dB
2200	< 15.6dB
2400	< 16.3dB

Coupling loss (dB/90%)

Frequency (MHz)	Maximum (dB/100 m)
75	80dB
150	80dB
450	80dB
800	80dB
900	80dB
1800	85dB
2000	85dB
2200	85dB
2400	85dB

Mechanical Specifications

Adhesive Strength	Flexibility	Mininum Bending Radius
≥50KgF/m	Repeat 10 times	≤ 125mm

Radiating 7/8"

ESRF-HRA22D / ESRF-HRA22D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum	Outer Conductor	Corrugated Aluminum Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	9.45 ± 0.2mm
Dielectric	23.0mm
Outer Conductor	25.2mm
Cable Diameter	28.2mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.9 Ω/㎞
Outer Conductor Resistance	〈 1.9 Ω/㎞
Insulation Resistance	〉10,000 MΩ/km
Dielectric Withstand Voltage	6000V
Impedance	50±2 Ω
VSWR(30~2,700㎒)	〈 1.3
Velocity of Signal Propagation	≥ 88%

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
75	< 1.4dB
150	< 1.9dB
450	< 3.4dB
800	< 5.0dB
900	< 5.4dB
1800	< 7.9dB
2000	< 8.2dB
2200	< 8.9dB
2400	< 9.4dB

Coupling loss (dB/90%)

Frequency (MHz)	Maximum (dB/100 m)
75	80dB
150	80dB
450	80dB
800	80dB
900	80dB
1800	85dB
2000	85dB
2200	85dB
2400	85dB

Mechanical Specifications

Adhesive Strength	Flexibility	Mininum Bending Radius
≥50KgF/m	Repeat 10 times	≤ 250mm

Flexible SWT 2/5"

ESRF-SWT10D / ESRF-SWT10D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum wire	Outer Conductor	Aluminum Smooth Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	3.56 ± 0.05mm
Dielectric	–
Outer Conductor	10.1 ± 0.2mm
Jacket thickness	–
Cable Diameter	11.2 ± 0.2mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 ft)
30	1.90
50	2.60
100	3.45
200	4.75
400	6.70
450	7.35
500	7.50
800	9.48
900	10.70
1000	11.15
1500	13.65
1800	15.05
2000	15.95
2300	17.30
2400	17.65
2500	18.51
2700	18.75

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 3.00 Ω/㎞
Outer Conductor Resistance	〈 3.40 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC2,500V
Impedance	50±2 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	15KW
Velocity of Signal Propagation	〉85%
Inter-modulation (PIMD)	〉–155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	32mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	–40℃~+70℃

Flexible SWT 1/2"

ESRF-SWT12D / ESRF-SWT12D-FR

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum wire	Outer Conductor	Aluminum Smooth Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	5.1 ± 0.2mm
Dielectric	–
Outer Conductor	13.7 ± 0.2mm
Jacket thickness	–
Cable Diameter	15.5 ± 0.5mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 ft)
30	1.35
50	1.70
100	2.43
200	3.35
400	4.65
500	5.40
800	6.50
1000	7.54
1800	10.36
2000	10.98
2400	12.16
2700	13.29

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.8 Ω/㎞
Outer Conductor Resistance	〈 2.8 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC2,500V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	39KW
Velocity of Signal Propagation	88%
Inter-modulation (PIMD)	-155dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	60mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Twin SWT 2/5"

ESRF-SWT10D-SS /
ESRF-SWT10D-SS-FR

CONSTRUCTION MATERIALS

Center conductor	Solid Copper Tube	Outer Conductor	Al-Strip, alloy 1350, 1100, AL purity 〉99.5% Corrugated Aluminum Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	3.56 ± 0.2mm
Dielectric	N/A
Outer Conductor	10.1 ± 0.2mm
Jacket thickness	N/A
Cable Diameter	11.4 ± 0.5mm
W	2.5 ± 0.5mm
H	1.2 ± 0.5mm

Attenuation [@ 68˚F. (20˚C.)]

Frequency (MHz)	Maximum (dB/100 ft)
30	< 1.95
50	< 2.60
100	< 3.45
200	< 4.75
400	< 6.70
500	< 7.50
800	< 9.48
1000	< 11.15
1800	< 15.05
2000	< 15.95
2400	< 17.65
2700	< 18.75

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 3.00 Ω/㎞
Outer Conductor Resistance	〈 3.40 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC2,500V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	15KW
Velocity of Signal Propagation	≥ 85%
Inter-modulation (PIMD)	≤-150dBc ≤-160dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	≤ 32mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

Twin SWT 1/2"

ESRF-SWT12D-SS /
ESRF-SWT12D-SS-FR

CONSTRUCTION MATERIALS

Center conductor	Solid Copper Tube	Outer Conductor	Al-Strip, alloy 1350, 1100, AL purity 〉99.5% Corrugated Aluminum Tube
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	5.11 ± 0.2mm
Dielectric	N/A
Outer Conductor	13.7 ± 0.2mm
Jacket thickness	N/A
Cable Diameter	15.5 ± 0.5mm
W	2.5 ± 0.5mm
H	1.2 ± 0.5mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 ft)
30	< 1.35
50	< 1.70
100	< 2.43
200	< 3.35
400	< 4.65
500	< 5.40
800	< 6.50
1000	< 7.54
1800	< 10.36
2000	< 10.98
2400	< 12.16
2700	< 13.29

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 1.8 Ω/㎞
Outer Conductor Resistance	〈 2.8 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC2,500V
Impedance	50±1 Ω (〈2700㎒)
VSWR	〈 1.15
Peak Power Rating	≥39KW
Velocity of Signal Propagation	≥ 88%
Inter-modulation (PIMD)	≤-150dBc ≤-160dBc

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	50KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	≤ 60mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	-40℃~+70℃

BRAID 3/8"

ESRF-HFB-8D

CONSTRUCTION MATERIALS

Center conductor	Solid Cu	Outer Conductor	Copper Braid
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	2.9 (+0.05mm / −0.02
Dielectric thickness	9.7
Aluminum Tapethickness	11.2
Cable Diameter	13.6 ± 0.2mm

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 2.70 Ω/㎞
Outer Conductor Resistance	〈 5.80 Ω/㎞
Insulation Resistance	〉10,000 MΩ/km
Dielectric Withstand Voltage	DC1,000V
Impedance	50±3 Ω (〈2700㎒)
VSWR	〈 1.5
Velocity of Signal Propagation	〉60%
Inter-modulation (PIMD)	

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
30	3.80dB
90	6.70dB
150	8.50dB
450	15.80dB
900	22.60dB
1000	23.90dB

Mechanical Specifications

Component (Nominal)	Spec
Adhesive Strength	30KgF/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	30mm

Environmental Specifications

Component (Nominal)	Spec
Temperature Range Humidity Range	−40℃~+70℃

BRAID 3/8 AL"

ESRF-HFB-8D AL

CONSTRUCTION MATERIALS

Center conductor	Copper Clad Aluminum wire	Outer Conductor	Copper Clad Tinned + Laminated APA Tape
Dielectric	Foamed polyethylene	Jacket	Polyethylene (PE)

Physical Dimensions

Component (Nominal)	Spec
Center conductor	2.74 (+0.05mm / −0.02)
Dielectric thickness	2.26±0.2
Aluminum Tapethickness	0.05
Cable Diameter	10.2 ± 0.2mm

Attenuation [@ 68°F. (20°C.)]

Frequency (MHz)	Maximum (dB/100 m)
150	5.0
220	6.1
450	8.9
900	12.8
1500	16.8
1800	18.6
2000	19.6
2400	21.7
2700	23.1

Electrical Specifications

Component (Nominal)	Spec
Center Conductor Resistance	〈 4.60 Ω/㎞
Outer Conductor Resistance	〈 5.90 Ω/㎞
Insulation Resistance	〉1,000 MΩ/km
Dielectric Withstand Voltage	DC1,000V
Impedance	50±3 Ω (〈2700㎒)
VSWR	〈 1.2
Velocity of Signal Propagation	〉80%
Inter-modulation (PIMD)	〈 −140dBc

Mechanical Specifications

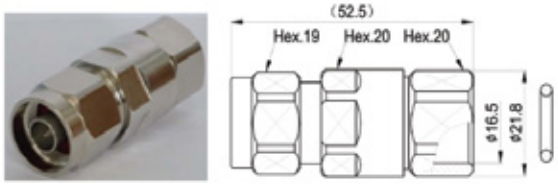
Component (Nominal)	Spec
Adhesive Strength	≥30Kgf/m
Flexibility	Test standard: cable diameter X 20
Mininum Bending Radius	30mm

Environmental Specifications

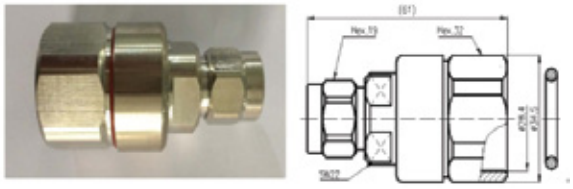
Component (Nominal)	Spec
Temperature Range Humidity Range	−40℃~+70℃

Feeder Connector

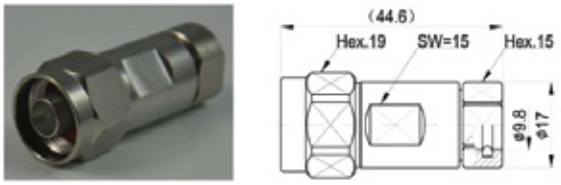
N–TYPE CONNECTOR



N Straight male Connector for 1/2" Flexible RF Cable



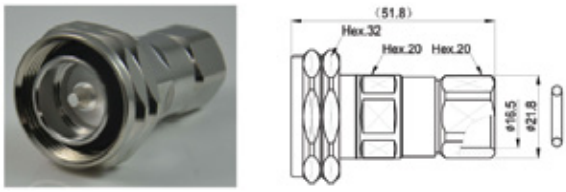
N Straight male Connector for 7/8"" Flexible RF Cable



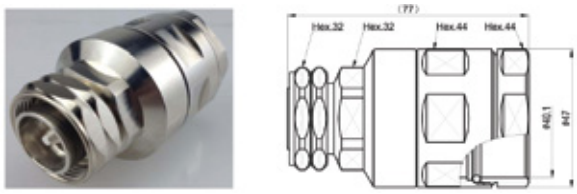
N Straight male Connector for 1/4" Flexible RF Cable

N Straight male Connector for 1–5/8" Flexible RF Cable

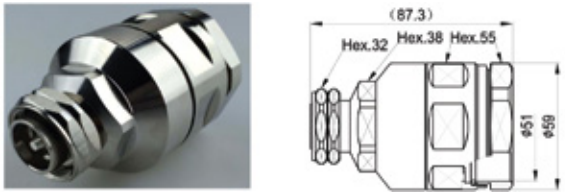
7/16M, DINM CONNECTOR



7/16 Straight male Connector for 1/2" Flexible RF Cable



7/16 Straight male Connector for 1–1/4" Flexible RF Cable



7/16 Straight male Connector for 1–5/8" Flexible RF Cable

STRIPPING TOOLS

FEEDER CONNECTORS

ES-TECH International connectors and adaptors are available in N and DIN 7-16 series with both male and female interfaces for coaxial cables. All connectors are designed to guarantee excellent electrical characteristics with FlexLine cables, such as excellent return loss, high quality standards, waterproofness acc. to IP 68 and low attenuation values.

Company Information

ES-TECH international is specialized in providing broadcasting, communication, electronic solutions.

ES-TECH international specialized in providing communication and infrastructure solutions for better life of humans. ES-TECH international provides a variety of fiber optic solutions and industrial power supply solutions over worldwide wire and wireless communication markets.

To keep pace with rapid changing market, ES-TECH international is expanding structured cable system/intelligence building system and network solution field by continuously developing new products through aggressive investment for R&D.

Developing better products in cooperating with global corporations in order to offer customized solutions for customer satisfaction is our primary.
ES-TECH international will be always with you with state of the art solution which is your way to happiness.

Company Products

Fiber Optics Cable

Coaxial Cable

SUN UPS Series

Rack Mount UPS

PSM Series

Feeder Cable

Indoor Passive Equipments

Outdoor Passive Equipments

Connectors

Indoor Amplifer

High Quality Total Communication Solutions

Optical Devices

LAN Cable

CONNECTING THE POWERED LIFE

Communication & Infrastructure

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