Koakskabler
Coaxial Cables

/orencable

www.orencables.com

Ören Kablo begyndte med at producer koakskabler i 1979. Baseret på grundtanken at firmaets strategi fastlægges ud fra til stadighed at følge krav fra kunderne og udviklingen hos konkurrenterne i koakskabel markedet, så har Ören Kablo altid haft succes med at bruge den nyeste teknologi i kabler og i produktion for at sikre kundetilfredshed og – loyalitet i et hastigt forandrende marked.

Produktionen foregår i de moderne fabriksfaciliteter i Silivri Ortaköy Industrial Zone, hvor Ören Kablo fremstiller en bred vifte af produkter så som kabel-TV kabler, digitale satellitkabler, datakabler, interaktiv-TV kabler, CAT5 og CAT6 LAN kabler, styringskabler og brandalarmskabler, og samtidig tilbyder kunderne lavt røgudviklende og flammehæmmende udgaver af "halogenfrie" kabler, også kendt i branchen som brandsikre kabler, af alle disse typer kabler.

Ören Kablo startede produktionen af fysisk skum-PE dielektrikumkabler i begyndelsen af 2009, og leverer nu 60 % af Tyrkiets forbrug af digital TV kabler fra en gasopskummet film/skum/film tre-indsprøjtet fysisk skum polyethylen ekstruderingsproduktionslinje. Oveni resultaterne på det tyrkiske marked så eksporterer Ören Kablo også over hele verden.

Indenfor rammerne af en produktion, som følger ISO 9001-2000 kvalitetsstyringssystemet, så anvender Ören Kablo princippet om at levere første klasses kvalitet og bibeholde kundetilfredshed og –loyalitet.

Ören Kablo entered into cable manufacturing sector with the manufacture of coaxial cables in 1979. Making up its principle to determine its strategies by continually following up the demands of the customers and development of its competitors taking place in the coaxial cable market and segment since its establishment, Ören Kablo has always succeeded to make the best use of advance technology in product and service production to provide customer satisfaction and loyalty in rapidly changing business world.

Carrying out its production activities in its modern manufacturing facilities located in Silivri Ortaköy Industrial Zone, Ören Kablo realising manufacturing wide range of products such as cable TV, digital satellite, data cables, interactive TV cables, CAT5, CAT6 LAN cables, signal command cables and fire warning cables; and at the same time, offers to the use of its customers the low fume and flame retarding versions of "halogen free" cable, which is also known as "fire proof cable" in the sector, for all the products taking place in this range.

Ören Kablo initiated Physical Foam PE insulated cable production in the beginning of 2009 and currently meets 60% of Turkey's digital broadcasting cable need by itself, with the Gas Injection Skin/Foam/Skin triple injected Physical Foamed Polyethylene Extruder manufacturing line investment. Apart from its achievements in the Turkish market, Ören Kablo also exports to worlwide.

Manufacturing within the framework of ISO 9001-2000 Quality Management System, Ören Kablo adopted the principle of providing superior quality and sustainable customer satisfaction and loyalty.

Et netværk er ikke stærkere end det svageste led i kæden

Dette har været Örens motto under udviklingen af Örens HD serie af koakskabler.

For at få en stærk forbindelse i netværket er det nødvendigt med en perfekt tilpasning mellem kabel og konnektor. Med hjælp fra Corning Cablecons ingeniører har vi opnået netop dette med vores Ören HD serie af koakskabler.

Film / Skum / Film

Dette er navnet på 3-lags ekstruderingsmetoden for koakskabler. Alle Örens HD kabler er fremstillet efter denne metode.

Den første film er et meget tyndt lag af fast PE, som indkapsler kablets inderleder. Filmen beskytter dielektrikum mod indtrængning af vand, og beskytter desuden inderlederen mod oxidering.

Det andet lag er den kraftigt komprimerede gasopskummede PE. Derved opnås et dielektrikum med en ekstrem lille cellekonstruktion, hvilket medfører, at Örens HD kabler har en fremragende impedansstabilitet. Dette beskytter desuden dielektrikummet mod indtrægning af fugt.

Også den anden film er et meget tyndt lag af fast PE. Det andet lag, som er gasopskummet, er blødt og svampet og derfor skrøbeligt overfor bøjning af kablet. Det tredje lag af fast PE øger den mekaniske styrke i dielektrikummet, og gør det derfor muligt for Örens HD kabler at bevare deres stabile elektriske egenskaber, selv når kablet bøjes.

Fordelene ved Film / Skum / Film isolering

- Lav kabeldæmpning
- Fremragende impedansstabilitet (75 ± 2 Ω)
- Høj udbredelseshastighed
- Fremragende refleksionsdæmpning
- Kablets dielektrikum er beskyttet mod indtrængning af fugt
- Godt beskyttet mod ældning
- Stabile elektriske egenskaber når kablet bøjes

Limet aluminiumsfolie

Alle Örens HD kabler har to aluminiumsfolier limet henholdsvis til dielektrikummet og til kappen.

Aluminiumsfolien ovenpå dielektrikummet er limet hertil, hvilket giver en glat aluminiumsoverflade ovenpå det gasopskummede PE dielektrikum. Med den limede folie har kablet bedre skærmtæthed. I Örens HD kabler er aluminiumsfolien under kappen limet til denne, hvilket betyder, at kablerne bevarer deres skærmtæthed, selv når kablet bøjes under installationen.

A Network is Only as Strong as Its Weakest Link

This has been the motto we had in Ören in the process of developing Ören HD Series Coaxial cables.

In order to reach a strong link in your Network, you need the Perfect Cable-Connector match. Thanks to the constant feedbacks we received from Corning Cablecon's Engineers, we achieved this with our Ören HD series Coaxial Cables.

Ören HD cables combined with the listed Corning Cabelcon connectors not only deliver the Perfect Cable-Connector match performance; moreover, it delivers the ease of connector fitting even under cold weather conditions.

Skin / Foam / Skin

Is the name of the 3 layers extrusion method for the coaxial cables. All Ören HD series coaxial cables have this feature.

The first layer contains a very thin layer of solid PE applied over the inner conductor of the cable. This protects the insulation from water penetration; furthermore, it protects the inner conductor from oxidation.

The second layer is the highly compressed Gas Injected to the PE. This allows the insulation have extremely small cell construction which results in Ören HD cables having excellent impedance stability; furthermore, this protects the insulation from moisture ingress.

The third layer layer is a very thin layer of Solid PE. The second layer, which is the Gas Injected Foam, is soft and spongy; therefore, it may be fragile against cable bends. This thrid layer of Solid PE adds mechanical strength to the insulation and allows the Ören HD cables preserve stable electrical parameters even when the cable is bent.

Advantages of the Skin / Foam / Skin Insulation

- Low Attenuation values.
- Excellent Impedance stability. (75 ± 2 Ω)
- High velocity of propogation.
- Excellent Return Loss performance.
- Insulation of the cable is protected from moisture ingress.
- Well protected against ageing.
- Stable electrical parameters when the cable is bent.

Bonded Aluminium Foil

All the Ören HD cables contain bonded aluminium foil both over the insulation and under the jacket.

The Aluminium foil over the insulation is bonded to the insulation, which allows a smooth aluminium Surface over the Gas Injected PE insulation. Since the aluminium is bonded to the insulation, it also helps the cable having better screening performances.

The aluminium foil under the jacket on Ören HD cables are also bonded to the jacket, which allows the cables preserve their screening performance even in situations of bending the cable during the mounting process.

Thanks to using Bonded aluminium Foil on both over the insulation and under the jacket, Ören HD Cables Screening Performance is in Class A+ level before and after the cable is bent.

Ören
coaxial cables

Ören **HD** serie
Koakskabler

Beskytter bedre mod **LTE-signaler**
Klasse A+ ifølge **DS/EN 50117-2-4**
Bedre ældningsbestandighed med **F/S/F-dielektrikum**
Velkendt Ören **HD-kvalitet**

Ören **HD** Series
Coaxial Cables

Better Protection From **LTE-Signals**
Class A+ According to **DIN EN 50117-2-4**
For Better Aging Performance **S/F/S Long Life Dielectric**
Known Ören **HD-Quality**

RoHS Compliant CE CPR COMPLIANT

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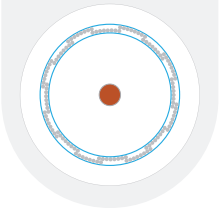


Class A+

HD 063 HFFR

RoHS Compliant CE CPR COMPLIANT

Anvendelse

Minikoakskablet er lavet specielt til brug i multimedia netværk, og opfylder kravene til klasse A+ skærmtæthed, som efterspørges af kabeloperatører. Kablet har lav dæmpning, høj skærmtæthed og høj ældningsbestandighed. Kablerne er halogenfrie, ikke-korroderende og flammehæmmede pga. den HFFR blanding, som er brugt i kablernes konstruktion.

Kablets opbygning

Inderleder
Ø 0.65 mm ren kobber

Dielektrikum
Ø 2.80 mm gasopskummet Film/Skum/Film PE

1. skærm
Aluminiumsfolie
(limet til dielektrikum)

2. skærm
Fortinnet kobberfletskærm

3. skærm
Aluminiumsfolie

Kappe
Ø 4.30 mm HFFR*

Tekniske egenskaber

Kabelvægt	25 kg/km
Kobbervægt	9.7 kg/km
Min. bøjningsradius	25 mm
Maks. trækkraft	30 N
Temperatureområde	-30 °C ... +70 °C
Pakning	100 / 250 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	82 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	1000 V
Testet spænding	2500 V
Inderleder DC-modstand	< 61.90 Ω/km

Kableldæmpning (20°C)

50 MHz	6.90 dB/100m
230 MHz	15.50 dB/100m
470 MHz	21.60 dB/100m
860 MHz	29.70 dB/100m
1000 MHz	32.10 dB/100m
1200 MHz	35.90 dB/100m
2150 MHz	48.20 dB/100m
3000 MHz	58.10 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-4

Brandklassifikation
D_{ca}

Brandhæmmende
EN 60332-1-2

Test af korroderende gasser
TS EN 60754-2

Røgudvikling
EN 61034-2

Application

This Mini Coax type cable is specifically designed for use in multimedia networks and complies with screening of class A+ level, which is the high demand of Cable Network Operators. It has characteristics such as low loss, high screening efficiency, and high resistance to aging. These cables are Halogen Free, Non Corrosive and Flame retardant, thanks to the HFFR Compound that has been used on their construction.

Cable Construction

Inner Conductor
Ø 0.65 mm Bare Copper

Insulation
Ø 2.80 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Aluminum Foil
(Bonded to the Insulation)

2nd Shielding
Tinned Copper Wire Braiding

3rd Shielding
Aluminum Foil

Outer Sheath
Ø 4.30 mm HFFR*

Technical Properties

Cable Weight	25 kg/km
Copper Weight	9.7 kg/km
Min. Bending Radius	25 mm
Max. Tensile Strength	30 N
Temperature Range	-30 °C ... +70 °C
Packing	100 / 250 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	82 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	1000 V
Test Voltage	2500 V
Inner Conductor DCR	< 61.90 Ω/km

Attenuations (20°C)

50 MHz	6.90 dB/100m
230 MHz	15.50 dB/100m
470 MHz	21.60 dB/100m
860 MHz	29.70 dB/100m
1000 MHz	32.10 dB/100m
1200 MHz	35.90 dB/100m
2150 MHz	48.20 dB/100m
3000 MHz	58.10 dB/100m

Return Loss (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-4

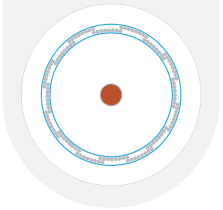
Euro Class
D_{ca}

Flame Retardancy
EN 60332-1-2

Corrosive Gases Test
TS EN 60754-2

Smoke Density
EN 61034-2

* HFFR (Halogen Free, Flame Retardant) = FRNC (Flame Retardant, None Corrosive) = LSNH (Low Smoke None Halogen) = LSZH (Low Smoke Zero Halogen) = LS0H (Low Smoke Zero Halogen)



Class A+

HD 083 HFFR

RoHS Compliant CE CPR COMPLIANT

Anvendelse

Dette RG59 kabel er lavet specielt til brug i multimedia netværk, og opfylder kravene til klasse A+ skærmtæthed, som efterspørges af kabeloperatører. Kablet har lav dæmpning, høj skærmtæthed og høj ældningsbestandighed. Kablerne er halogenfrie, ikke-korroderende og flammehæmmede pga. den HFFR blanding, som er brugt i kablernes konstruktion.

Kablets opbygning

Inderleder
Ø 0.80 mm ren kobber

Dielektrikum
Ø 3.60 mm gasopskummet Film/Skum/Film PE

1. skærm
Aluminiumsfolie
(limet til dielektrikum)

2. skærm
Fortinnet kobberfletskærm

3. skærm
Aluminiumsfolie
(limet til kappen)

Kappe
Ø 5.50 mm HFFR*

Tekniske egenskaber

Kabelvægt	40 kg/km
Kobbervægt	12.7 kg/km
Min. bøjningsradius	30 mm
Maks. trækkraft	50 N
Temperatureområde	-30 °C ... +70 °C
Pakning	100 / 250 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	83 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	1100 V
Testet spænding	2500 V
Inderleder DC-modstand	< 34.50 Ω/km

Kableldæmpning (20°C)

50 MHz	5.70 dB/100m
230 MHz	11.90 dB/100m
470 MHz	17.70 dB/100m
860 MHz	23.90 dB/100m
1000 MHz	25.70 dB/100m
1200 MHz	28.10 dB/100m
2150 MHz	38.60 dB/100m
3000 MHz	46.10 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-4

Brandklassifikation
D_{ca}

Brandhæmmende
EN 60332-1-2

Test af korroderende gasser
TS EN 60754-2

Røgudvikling
EN 61034-2

Application

This RG 59 type cable is specifically designed for use in multimedia networks and complies with screening of class A+ level, which is the high demand of Cable Network Operators. It has characteristics such as low loss, high screening efficiency, and high resistance to aging. These cables are Halogen Free, Non Corrosive and Flame retardant, thanks to the HFFR Compound that has been used on their construction.

Cable Construction

Inner Conductor
Ø 0.80 mm Bare Copper

Insulation
Ø 3.60 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Aluminum Foil
(Bonded to the Insulation)

2nd Shielding
Tinned Copper Wire Braiding

3rd Shielding
Aluminum Foil
(Bonded to the Jacket)

Outer Sheath
Ø 5.50 mm HFFR*

Technical Properties

Cable Weight	40 kg/km
Copper Weight	12.7 kg/km
Min. Bending Radius	30 mm
Max. Tensile Strength	50 N
Temperature Range	-30 °C ... +70 °C
Packing	100 / 250 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	83 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	1100 V
Test Voltage	2500 V
Inner Conductor DCR	< 34.50 Ω/km

Attenuations (20°C)

50 MHz	5.70 dB/100m
230 MHz	11.90 dB/100m
470 MHz	17.70 dB/100m
860 MHz	23.90 dB/100m
1000 MHz	25.70 dB/100m
1200 MHz	28.10 dB/100m
2150 MHz	38.60 dB/100m
3000 MHz	46.10 dB/100m

Return Loss (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-4

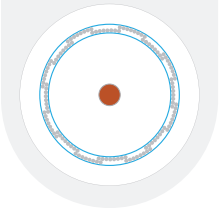
Euro Class
D_{ca}

Flame Retardancy
EN 60332-1-2

Corrosive Gases Test
TS EN 60754-2

Smoke Density
EN 61034-2

* HFFR (Halogen Free, Flame Retardant) = FRNC (Flame Retardant, None Corrosive) = LSNH (Low Smoke None Halogen) = LSZH (Low Smoke Zero Halogen) = LS0H (Low Smoke Zero Halogen)



Class A+

HQ 113 HFFR

RoHS Compliant CE CPR COMPLIANT

Anvendelse

Disse kabler bruges til CCTV-signaler og til fordeling af bredbånds- og CATV-signaler i systemer, hvor der er krav til lav kabeldæmpning. Disse kabler er halogenfrie, frigiver ikke korroderede gasser, og er brandhæmmende pga. den HFFR blanding, som er anvendt til deres ydrekappe.

Kablets opbygning

Inderleder
Ø 1.13 mm ren kobber

Dielektrikum
Ø 4.80 mm gasopskummet Film/Skum/Film PE

1. skærm
Aluminiumsfolie (limet til dielektrikum)

2. skærm
Aluminiumsfletskærm

3. skærm
Aluminiumsfolie (limet til kappen)

Kappe
Ø 6.80 mm HFFR* Hvid

Tekniske egenskaber

Kabelvægt	47 kg/km
Kobbervægt	9.9 kg/km
Min. bøjningsradius	30 mm
Maks. trækkraft	110 N
Temperatureområde	-30 °C ... +70 °C
Pakning	5 / 10 / 25 / 100 / 250 / 500 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	84 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	1300 V
Testet spænding	3000 V
Inderleder DC-modstand	< 17.80 Ω/km

Kableldæmpning (20°C)

5 MHz	1.40 dB/100m
50 MHz	4.10 dB/100m
230 MHz	8.90 dB/100m
470 MHz	12.90 dB/100m
860 MHz	17.90 dB/100m
1000 MHz	19.20 dB/100m
1200 MHz	21.90 dB/100m
2150 MHz	29.90 dB/100m
3000 MHz	36.20 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 26 dB
470-1200 MHz	> 23 dB
1200-2000 MHz	> 20 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-4

Brandklassifikation
D_{ca}

Brandhæmmende
EN 60332-1-2

Test af korroderende gasser
TS EN 60754-2

Røgudvikling
EN 61034-2

Application

These types of cables are used for CCTV and indoor CATV distributions and connections of systems which require low attenuations. These cables are Halogen Free, Non Corrosive and Flame retardant, thanks to the HFFR Compound that has been used on their construction.

Cable Construction

Inner Conductor
Ø 1.13 mm Bare Copper

Insulation
Ø 4.80 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Aluminum Foil (Bonded to the Insulation)

2nd Shielding
Aluminum Wire Braiding

3rd Shielding
Aluminum Foil (Bonded to the Jacket)

Outer Sheath
Ø 6.80 mm HFFR* White

Technical Properties

Cable Weight	47 kg/km
Copper Weight	9.9 kg/km
Min. Bending Radius	30 mm
Max. Tensile Strength	110 N
Temperature Range	-30 °C ... +70 °C
Packing	5 / 10 / 25 / 100 / 250 / 500 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	84 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	1300 V
Test Voltage	3000 V
Inner Conductor DCR	< 17.80 Ω/km

Attenuations (20°C)

5 MHz	1.40 dB/100m
50 MHz	4.10 dB/100m
230 MHz	8.90 dB/100m
470 MHz	12.90 dB/100m
860 MHz	17.90 dB/100m
1000 MHz	19.20 dB/100m
1200 MHz	21.90 dB/100m
2150 MHz	29.90 dB/100m
3000 MHz	36.20 dB/100m

Return Loss (20°C)

5-470 MHz	> 26 dB
470-1200 MHz	> 23 dB
1200-2000 MHz	> 20 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-4

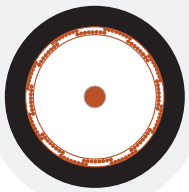
Euro Class
D_{ca}

Flame Retardancy
EN 60332-1-2

Corrosive Gases Test
TS EN 60754-2

Smoke Density
EN 61034-2

* HFFR (Halogen Free, Flame Retardant) = FRNC (Flame Retardant, None Corrosive) = LSNH (Low Smoke None Halogen) = LSZH (Low Smoke Zero Halogen) = LS0H (Low Smoke Zero Halogen)



Class A+

HD 113 Cu/Cu PE

Anvendelse

Disse kabler bruges udendørs til fordeling af bredbånds- og CATV-signaler og til forbindelse af SMATV systemer, der kræver lav kabeldæmpning.

Kablets opbygning

Inderleder
Ø 1.13 mm ren kobber

Dielektrikum
Ø 4.80 mm gasopskummet Film/Skum/Film PE

1. skærm
Cu-Pet film

2. skærm
Kobberfletskærm

3. skærm
Cu-Pet film
(Limet til kablets kappe)

Kappe
Ø 7.00 mm PE

Tekniske egenskaber

Kabelvægt	48 kg/km
Kobbervægt	17.7 kg/km
Min. bøjningsradius	30 mm
Maks. trækkraft	120 N
Temperatureområde	-40 °C ... +70 °C
Pakning	100 / 350 / 500 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	84 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	1300 V
Testet spænding	3000 V
Inderleder DC-modstand	< 17.80 Ω/km

Kableldæmpning (20°C)

5 MHz	1.40 dB/100m
50 MHz	4.10 dB/100m
230 MHz	8.90 dB/100m
470 MHz	12.90 dB/100m
860 MHz	17.90 dB/100m
1000 MHz	19.20 dB/100m
1200 MHz	21.90 dB/100m
2150 MHz	29.90 dB/100m
3000 MHz	36.20 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 26 dB
470-1200 MHz	> 23 dB
1200-2000 MHz	> 20 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-4

Brandklassifikation
F_{ca}

Application

These types of cables are used for outdoor CATV distributions and connections of SMATV systems which require low attenuations.

Cable Construction

Inner Conductor
Ø 1.13 mm Bare Copper

Insulation
Ø 4.80 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Cu-Pet Foil

2nd Shielding
Copper Wire Braiding

3rd Shielding
Cu-Pet Foil
(Bonded to the Outer Sheath)

Outer Sheath
Ø 7.00 mm PE

Technical Properties

Cable Weight	48 kg/km
Copper Weight	17.7 kg/km
Min. Bending Radius	30 mm
Max. Tensile Strength	120 N
Temperature Range	-40 °C ... +70 °C
Packing	100 / 350 / 500 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	84 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	1300 V
Test Voltage	3000 V
Inner Conductor DCR	< 17.80 Ω/km

Attenuations (20°C)

5 MHz	1.40 dB/100m
50 MHz	4.10 dB/100m
230 MHz	8.90 dB/100m
470 MHz	12.90 dB/100m
860 MHz	17.90 dB/100m
1000 MHz	19.20 dB/100m
1200 MHz	21.90 dB/100m
2150 MHz	29.90 dB/100m
3000 MHz	36.20 dB/100m

Return Loss (20°C)

5-470 MHz	> 26 dB
470-1200 MHz	> 23 dB
1200-2000 MHz	> 20 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

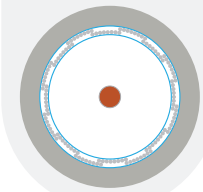
Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-4

Euro Class
F_{ca}



Class A+

HD 163 HFFR

Anvendelse

Dette RG11 kabel er lavet specielt til brug i multimedia netværk, og opfylder kravene til klasse A+ skærmtæthed, som efterspørges af kabeloperatører. Kablet har lav dæmpning, høj skærmtæthed og høj ældningsbestandighed. Kablerne er halogenfrie, ikke-korroderende og flammehæmmede pga. den HFFR blanding, som er brugt i kablernes konstruktion.

Kablets opbygning

Inderleder
Ø 1.63 mm ren kobber

Dielektrikum
Ø 7.15 mm gasopskummet Film/Skum/Film PE

1. skærm
Aluminiumsfolie
(limet til dielektrikum)

2. skærm
Udglødet kobberfletskærm

3. skærm
Aluminiumsfolie
(limet til kappen)

Kappe
Ø 10.00 mm HFFR*

Tekniske egenskaber

Kabelvægt	100 kg/km
Kobbervægt	**34.3** kg/km
Min. bøjningsradius	80 mm
Maks. trækkraft	225 N
Temperatureområde	-30 °C ... +70 °C
Pakning	250 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	84 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	2000 V
Testet spænding	5000 V
Inderleder DC-modstand	< 8.50 Ω/km

Kableldæmpning (20°C)

50 MHz	3.10 dB/100m
230 MHz	6.10 dB/100m
470 MHz	8.70 dB/100m
860 MHz	12.70 dB/100m
1000 MHz	14.00 dB/100m
1200 MHz	14.70 dB/100m
2150 MHz	21.80 dB/100m
3000 MHz	26.80 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-4

Brandklassifikation
D_{ca}

Brandhæmmende
EN 60332-1-2

Test af korroderende gasser
TS EN 60754-2

Røgudvikling
EN 61034-2

Application

This RG11 type cable is specifically designed for use in multimedia networks and complies with screening of class A+ level, which is the high demand of Cable Network Operators. It has characteristics such as low loss, high screening efficiency, and high resistance to aging. These cables are Halogen Free, Non Corrosive and Flame retardant, thanks to the HFFR Compound that has been used on their construction.

Cable Construction

Inner Conductor
Ø 1.63 mm Bare Copper

Insulation
Ø 7.15 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Aluminum Foil
(Bonded to the Insulation)

2nd Shielding
Annealed Copper Wire Braiding

3rd Shielding
Aluminum Foil
(Bonded to the Jacket)

Outer Sheath
Ø 10.00 mm HFFR*

Technical Properties

Cable Weight	100 kg/km
Copper Weight	**34.3** kg/km
Min. Bending Radius	80 mm
Max. Tensile Strength	225 N
Temperature Range	-30 °C ... +70 °C
Packing	250 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	84 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	2000 V
Test Voltage	5000 V
Inner Conductor DCR	< 8.50 Ω/km

Attenuations (20°C)

50 MHz	3.10 dB/100m
230 MHz	6.10 dB/100m
470 MHz	8.70 dB/100m
860 MHz	12.70 dB/100m
1000 MHz	14.00 dB/100m
1200 MHz	14.70 dB/100m
2150 MHz	21.80 dB/100m
3000 MHz	26.80 dB/100m

Return Loss (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-4

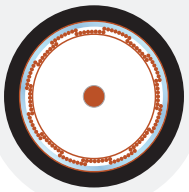
Euro Class
D_{ca}

Flame Retardancy
EN 60332-1-2

Corrosive Gases Test
TS EN 60754-2

Smoke Density
EN 61034-2

* HFFR (Halogen Free, Flame Retardant) = FRNC (Flame Retardant, None Corrosive) = LSNH (Low Smoke None Halogen) = LSZH (Low Smoke Zero Halogen) = LS0H (Low Smoke Zero Halogen)



Class A+

HD 163 Cu/Cu PEF

RoHS Compliant CE CPR COMPLIANT

Anvendelse

Dette RG11 kabel er lavet specielt til brug i multimedia netværk, og opfylder kravene til klasse A+ skærmtæthed, som efterspørges af kabeloperatører. Kablet har lav dæmpning, høj skærmtæthed og høj ældningsbestandighed.

Kablets opbygning

Inderleder
Ø 1.63 mm ren kobber

Dielektrikum
Ø 7.15 mm gasopskummet Film/Skum/Film PE

1. skærm
Cu film

2. skærm
Udglødet kobberfletskærm

Gel mod vandindtrængning

3. skærm
Cu film

Kappe
Ø 10.00 mm PE

Tekniske egenskaber

Kabelvægt	90 kg/km
Kobbervægt	**30.3** kg/km
Min. bøjningsradius	75 mm
Maks. trækkraft	225 N
Temperatureområde	-40 °C ... +70 °C
Pakning	250 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	84 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	2000 V
Testet spænding	5000 V
Inderleder DC-modstand	< 8.50 Ω/km

Kableldæmpning (20°C)

50 MHz	3.10 dB/100m
230 MHz	6.10 dB/100m
470 MHz	8.70 dB/100m
860 MHz	12.70 dB/100m
1000 MHz	14.00 dB/100m
1200 MHz	15.50 dB/100m
2150 MHz	21.80 dB/100m
3000 MHz	26.80 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	< 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	> 95 dB
1200-2000 MHz	> 85 dB
2000-3000 MHz	> 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-3

Brandklassifikation
F_{ca}

Application

This RG11 type cable is specifically designed for use in multimedia networks and complies with screening of class A+ level. It has characteristics such as low loss, high screening efficiency, and high resistance to aging.

Cable Construction

Inner Conductor
Ø 1.63 mm Bare Copper

Insulation
Ø 7.15 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Cu Foil

2nd Shielding
Annealed Copper Wire Braiding

Gel Flooding Compound

3rd Shielding
Cu Foil

Outer Sheath
Ø 10.00 mm PE

Technical Properties

Cable Weight	90 kg/km
Copper Weight	30.3 kg/km
Min. Bending Radius	75 mm
Max. Tensile Strength	225 N
Temperature Range	-40 °C ... +70 °C
Packing	250 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	84 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	2000 V
Test Voltage	5000 V
Inner Conductor DCR	< 8.50 Ω/km

Attenuations (20°C)

50 MHz	3.10 dB/100m
230 MHz	6.10 dB/100m
470 MHz	8.70 dB/100m
860 MHz	12.70 dB/100m
1000 MHz	14.00 dB/100m
1200 MHz	15.50 dB/100m
2150 MHz	21.80 dB/100m
3000 MHz	26.80 dB/100m

Return Loss (20°C)

5-470 MHz	> 30 dB
470-1200 MHz	> 25 dB
1200-2000 MHz	> 23 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	< 2.5 mΩ/m

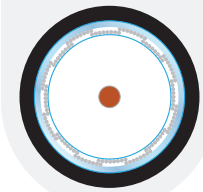
Screening Attenuation

30-1200 MHz	> 95 dB
1200-2000 MHz	> 85 dB
2000-3000 MHz	> 75 dB

Standards

Screening Class Class A+
EN 50117-2-3

Euro Class
F_{ca}



Class A+

HD 223 Cu/Cu PEF

RoHS Compliant CE CPR COMPLIANT

Anvendelse

Dette kabel er specielt til brug i multimedia netværk, og opfylder kravene til klasse A+ skærmtæthed, som efterspørges af kabeloperatører. Kablet har lav dæmpning, høj skærmtæthed og høj ældningsbestandighed. Beregnet til udendørsinstallation.

Kablets opbygning

Inderleder
Ø 2.20 mm ren kobber

Dielektrikum
Ø 9.90 mm gasopskummet Film/Skum/Film PE

1. skærm
Cu film

2. skærm
Udglødet kobberfletskærm

Gel mod vandindtrængning

3. skærm
Cu film

Kappe
Ø 12.70 mm PE

Tekniske egenskaber

Kabelvægt	142 kg/km
Kobbervægt	54.7 kg/km
Min. bøjningsradius	150 mm
Maks. trækkraft	400 N
Temperatureområde	-40 °C ... +70 °C
Pakning	250 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	83 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	2000 V
Testet spænding	8000 V
Inderleder DC-modstand	< 4.70 Ω/km

Kableldæmpning (20°C)

5 MHz	0.75 dB/100m
50 MHz	2.10 dB/100m
230 MHz	4.70 dB/100m
470 MHz	7.10 dB/100m
860 MHz	9.80 dB/100m
1000 MHz	10.90 dB/100m
1200 MHz	12.70 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 30 dB
470-1000 MHz	> 25 dB
1000-1200 MHz	> 20 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-3

Brandklassifikation
F_{ca}

Application

This cable is specifically designed for use in multimedia networks and complies with screening of class A+ level, which is the high demand of Cable Network Operators. It has characteristics such as low loss, high screening efficiency, and high resistance to aging. It is suitable for outdoor usage.

Cable Construction

Inner Conductor
Ø 2.20 mm Bare Copper

Insulation
Ø 9.90 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Cu Foil

2nd Shielding
Annealed Copper Wire Braiding

Gel Flooding Compound

3rd Shielding
Cu Foil

Outer Sheath
Ø 12.70 mm PE

Technical Properties

Cable Weight	142 kg/km
Copper Weight	54.7 kg/km
Min. Bending Radius	150 mm
Max. Tensile Strength	400 N
Temperature Range	-40 °C ... +70 °C
Packing	250 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	83 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	2000 V
Test Voltage	8000 V
Inner Conductor DCR	< 4.70 Ω/km

Attenuations (20°C)

5 MHz	0.75 dB/100m
50 MHz	2.10 dB/100m
230 MHz	4.70 dB/100m
470 MHz	7.10 dB/100m
860 MHz	9.80 dB/100m
1000 MHz	10.90 dB/100m
1200 MHz	12.70 dB/100m

Return Loss (20°C)

5-470 MHz	> 30 dB
470-1000 MHz	> 25 dB
1000-1200 MHz	> 20 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

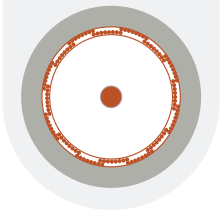
Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-3

Euro Class
F_{ca}



Class A+

HD 223 Cu/Cu HFFR

RoHS Compliant CE CPR COMPLIANT

Anvendelse

Dette kabel er specielt til brug i multimedia netværk, og opfylder kravene til klasse A+ skærmtæthed, som efterspørges af kabeloperatører. Kablet har lav dæmpning, høj skærmtæthed og høj ældningsbestandighed. eregnet til udendørsinstallation.

Kablets opbygning

Inderleder
Ø 2.20 mm ren kobber

Dielektrikum
Ø 9.90 mm gasopskummet Film/Skum/Film PE

1. skærm
Cu film

2. skærm
Udglødet kobberfletskærm

3. skærm
Cu film

Kappe
Ø 12.70 mm HFFR* Grå

Tekniske egenskaber

Kabelvægt	161 kg/km
Kobbervægt	54.7 kg/km
Min. bøjningsradius	150 mm
Maks. trækkraft	400 N
Temperatureområde	-30 °C ... +70 °C
Pakning	250 m

Elektriske egenskaber

Impedans	75 ± 2 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	83 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	2000 V
Testet spænding	8000 V
Inderleder DC-modstand	< 4.70 Ω/km

Kableldæmpning (20°C)

5 MHz	0.75 dB/100m
50 MHz	2.10 dB/100m
230 MHz	4.70 dB/100m
470 MHz	7.10 dB/100m
860 MHz	9.80 dB/100m
1000 MHz	10.90 dB/100m
1200 MHz	12.70 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 30 dB
470-1000 MHz	> 25 dB
1000-1200 MHz	> 20 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+
EN 50117-2-3

Brandklassifikation
D_{ca}

Application

This cable is specifically designed for use in multimedia networks and complies with screening of class A+ level, which is the high demand of Cable Network Operators. It has characteristics such as low loss, high screening efficiency, and high resistance to aging. It is suitable for outdoor usage.

Cable Construction

Inner Conductor
Ø 2.20 mm Bare Copper

Insulation
Ø 9.90 mm Gas Injected Skin/Foam/Skin PE

1st Shielding
Cu Foil

2nd Shielding
Annealed Copper Wire Braiding

3rd Shielding
Cu Foil

Outer Sheath
Ø 12.70 mm HFFR* Grey

Technical Properties

Cable Weight	161 kg/km
Copper Weight	54.7 kg/km
Min. Bending Radius	150 mm
Max. Tensile Strength	400 N
Temperature Range	-30 °C ... +70 °C
Packing	250 m

Electrical Properties

Impedance	75 ± 2 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	83 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	2000 V
Test Voltage	8000 V
Inner Conductor DCR	< 4.70 Ω/km

Attenuations (20°C)

5 MHz	0.75 dB/100m
50 MHz	2.10 dB/100m
230 MHz	4.70 dB/100m
470 MHz	7.10 dB/100m
860 MHz	9.80 dB/100m
1000 MHz	10.90 dB/100m
1200 MHz	12.70 dB/100m

Return Loss (20°C)

5-470 MHz	> 30 dB
470-1000 MHz	> 25 dB
1000-1200 MHz	> 20 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

Screening Attenuation

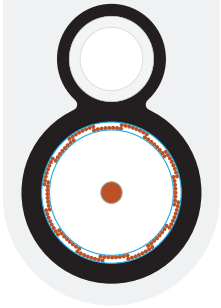
30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-3

Euro Class
D_{ca}

* HFFR (Halogen Free, Flame Retardant) = FRNC (Flame Retardant, None Corrosive) = LSNH (Low Smoke None Halogen) = LSZH (Low Smoke Zero Halogen) = LS0H (Low Smoke Zero Halogen)



Class A+

Hydra HD 113 Cu/Cu PE - Micro Duct

Anvendelse

Disse kabler er udviklet til brug, hvor kabel-TV operatøren på sigt ønsker at opgradere til et netværk med optiske fibre og samtidig ønsker at tilbyde bredbånds- og CATV-signaler på koakskabler. Derved opnås en høj fleksibilitet til fremtidens IP baserede løsninger samtidig med kabel-TV operatøren kan anvende den nuværende teknologi.

Kablets opbygning

Fiberrør
Ø 3.5 / 5.0 mm PE
Rør til indblæsning af fiber

Inderleder
Ø 1.13 mm ren kobber

Dielektrikum
Ø 4.80 mm gasopskummet
Film/Skum/Film PE

1. skærm
Cu film

2. skærm
Udglødet kobberfletskærm

3. skærm
Cu film

Kappe
Ø 9.00 - 14.00 mm PE

Tekniske egenskaber

Kabelvægt	83 kg/km
Kobbervægt	17.7 kg/km
Min. bøjningsradius	35 mm
Maks. trækkraft	110 N
Temperatureområde	-40 °C ... +70 °C
Pakning	400 m

Elektriske egenskaber

Impedans	75 ± 3 Ω
Kapacitans	53 ± 2 pF/m
Udbreddelseshastighed	84 %
Isolationsmodstand	> 2 GΩxkm
Maks. spænding	1300 V
Testet spænding	3000 V
Inderleder DC-modstand	< 17.80 Ω/km

Kableldæmpning (20°C)

5 MHz	1.40 dB/100m
50 MHz	4.10 dB/100m
230 MHz	8.90 dB/100m
470 MHz	12.90 dB/100m
860 MHz	17.90 dB/100m
1000 MHz	19.20 dB/100m
1200 MHz	21.90 dB/100m
2150 MHz	29.90 dB/100m
3000 MHz	36.20 dB/100m

Refleksionsdæmpning (20°C)

5-470 MHz	> 26 dB
470-1200 MHz	> 23 dB
1200-2000 MHz	> 20 dB
2000-3000 MHz	> 18 dB

Transferimpedans

5-30 MHz	≤ 2.5 mΩ/m

Skærmtæthed

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standarder

Skærmtæthed klasse klasse A+

Brandklassifikation
F_{ca}

Application

This construction is developed for applications where Cable TV networks want to upgrade their network to optical fibre but still intend to provide analog or digital video thru RF signals in the traditional way. The construction create a good flexibility for future IP based applications and at the same time allows the operator to use their existing technology.

Cable Construction

Micro Duct
Ø 3.5 / 5.0 mm PE
Blowing Fiber Duct

Inner Conductor
Ø 1.13 mm Bare Copper

Insulation
Ø 4.80 mm Gas Injected
Skin/Foam/Skin PE

1st Shielding
Cu Foil

2nd Shielding
Annealed Copper Wire Braiding

3rd Shielding
Cu Foil

Outer Sheath
Ø 9.00 - 14.00 mm PE

Technical Properties

Cable Weight	83 kg/km
Copper Weight	17.7 kg/km
Min. Bending Radius	35 mm
Max. Tensile Strength	110 N
Temperature Range	-40 °C ... +70 °C
Packing	400 m

Electrical Properties

Impedance	75 ± 3 Ω
Capacitance	53 ± 2 pF/m
Velocity of Propagation	84 %
Insulation Resistance	> 2 GΩxkm
Operating Voltage	1300 V
Test Voltage	3000 V
Inner Conductor DCR	< 17.80 Ω/km

Attenuations (20°C)

5 MHz	1.40 dB/100m
50 MHz	4.10 dB/100m
230 MHz	8.90 dB/100m
470 MHz	12.90 dB/100m
860 MHz	17.90 dB/100m
1000 MHz	19.20 dB/100m
1200 MHz	21.90 dB/100m
2150 MHz	29.90 dB/100m
3000 MHz	36.20 dB/100m

Return Loss (20°C)

5-470 MHz	> 26 dB
470-1200 MHz	> 23 dB
1200-2000 MHz	> 20 dB
2000-3000 MHz	> 18 dB

Transfer Impedance

5-30 MHz	≤ 2.5 mΩ/m

Screening Attenuation

30-1200 MHz	≥ 95 dB
1200-2000 MHz	≥ 85 dB
2000-3000 MHz	≥ 75 dB

Standards

Screening Class Class A+
EN 50117-2-4

Euro Class
F_{ca}

oren

Oren coaxial cables

Oren data cables

Oren telephone cables

Oren fire alarm cables

Oren fire resistant cables

Oren control cables

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