



VIDEO & SOUND PROFESSIONAL BROADCAST

**TVL 2200/70 ENH+**

- Cables Audio & Vídeo • Conexiones • Conectores
- Accesorios • Soporte Técnico
- Equipos Comunicaciones por Fibra Óptica • Calidad Broadcast

**DIGITAL COAXIAL VIDEO  
MULTICORE TVL CABLE**

### Descripción/ Description

Cable a la carta. Cables especiales compuestos de video ( Analógico/ Digital ), Audio ( Twister/ Quad), potencia, UTP, etc.

The customer ask for a composition, and with an initial minimum order we can prepare it. Special cables composed of video ( Analog/ Digital), Audio (Twister/ Quad), Power, STP, etc.

### Construcción / Construction

**COMPOSICION/COMPOSITION:**

- 2 digital video coaxial cable VK 70 ENH+
- 2 audio cable AK 220 AL.

#### **1. 2 digital video coaxial cable VK 70 ENH+:**

##### **1. Conductor:**

Solid Bare Electrolytic High Conductivity Copper (EHC Cu) AWG 17  
UNE 21-011

##### **2. Aislante / Insulation:**

Foam High Density FHDPE+ (GAS INJECTED+)  
IEC 708  
Ø 4,95mm

##### **3. Pantallas / Shields (2 pantallas/ 2 shields):**

###### **3.1 Primera Pantalla / First shield:**

100 % Cinta cobre pulido + PETP / Copper Foil + PETP (20/23 um)

###### **3.2 Segunda Pantalla / Second shield:**

95 % Trenza cobre pulido / Bare copper Braid UNE 21-011

##### **4. Cubierta externa / General Jacket:**

Ø 7,10 mm



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**2. 2 audio cable AK 220 AL :**

**1.Cada par/Each pair (1 pares/1 pairs):**

**1.1 Cada conductor/Each conductor:**

**1.1.1 Conductor :**

Cu O.F.C.  
25x 0.10 mm Ø (AWG 24)  
DIN 1787

**1.1.2 Aislante / Insulation:**

PTC UNE 21-031  
Ø 1,2 mm

**1.2 Pantalla por par / Shield per pair:**

Drain wire 7x 0,20mm CuSn short step (17) + Aluminium Foil/Gr Tape (Al/Gr) 100%  
PE H199

**2.Cubierta Externa / General Jacket:**

Ø 3,7 mm

**FRLS (NPI) IEC 60332-3-25 EN 50266-2-5 CEI 20-22/3-5** (test for vertical flame spread)

**3. Cubierta General/General Jacket:**

Ø 16,00 mm

PTC UNE 21-031

Colors: Black

**REVISION DATE: 15-04-2014**



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## TVL 2200/70 ENH+

## DIGITAL COAXIAL VIDEO MULTICORE TVL CABLE

[Datos Técnicos / Data Sheet](#)

### DIGITAL VIDEO CABLE VK 70 ENH+ DATA:

|   |                       |                        |
|---|-----------------------|------------------------|
| <b>Velocidad de Propagación / Velocity of propagation</b> | %                     | 84.21                  |
| <b>Retraso Nominal / Nominal Delay</b>                    | ns/m                  | 3,954399715            |
| <b>Impedancia Nominal / Nominal Impedance</b>             | $\Omega$              | 75 $\pm$ 0,75 $\Omega$ |
| <b>Capacidad Nominal / Nominal Capacitance</b>            | pF/m                  | 53,3028                |
| <b>Máxima tensión de trabajo / Max. Operation Voltage</b> | V                     | 300                    |
| <b>Inductancia nominal / Nominal inductance</b>           | $\mu$ H/m             | 0,307809               |
| <b>Resistencia núcleo en DC / Conductor DC resistance</b> | $\Omega$ /km          | 18,5744                |
| <b>Resistencia malla en DC / Shield DC resistance</b>     | $\Omega$ /km          | 5,63363                |
| <b>ATENUACION/ATTENUATION:</b>                            | Freq (MHz)            | dB/100m                |
|   | 1                     | 0,497                  |
|   | 10                    | 1,727                  |
|   | 100                   | 5,498                  |
|   | 200                   | 7,885                  |
|   | 300                   | 9,763                  |
|   | 500                   | 12,788                 |
|   | 800                   | 16,47                  |
|   | 1000                  | 18,533                 |
|   | 1500                  | 23,179                 |
|   | 2250                  | 28,865                 |
|   | 3000                  | 33,93                  |
|   | 3500                  | 36,648                 |
|   | 4000                  | 39,178                 |
|   | 4500                  | 41,555                 |
|   | 5000                  | 43,80                  |
| <b>Minimum STRUCTURAL RETURN LOSS (SRL)</b>               | <b>Sweep</b>          | <b>dB</b>              |
|   | 50 MHz–<br>300 MHz    | >31                    |
|   | 300 MHz–<br>3000 MHz  | >24                    |
|   | 3000 MHz–<br>3500 MHz | >19                    |
|   | 3500 MHz–<br>5000 MHz | >17                    |

Las especificaciones están sujetas a cambio sin previo aviso

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*Formato Digital de Vídeo / Digital Video Format*

|  | MAXIMUM TRANSMISSION DISTANCE (meters) AT SERIAL DIGITAL DATA RATES (SDI) |
|--|---|
| 71,5 MHz/143 Mbps (SMPTE 259M, Composite NTSC)                       | 634,78  |
| 88,5 MHz /177 Mbps (ITU-R BT. 601, Composite PAL)                    | 565,61  |
| 135 MHz/270 Mbps (SMPTE 259M, Component video)                       | 456,20  |
| 180 MHz/360 Mbps (SMPTE 259M, widescreen)                            | 393,50  |
| 270 MHz/540 Mbps (SMPTE 344M, widescreen)                            | 318,50  |
| 750 MHz/1.5 Gbps (SMPTE 292M, HDTV)<br>3G-SDI/HDTV BNC's             | 202   |
| 1,50 GHz/3.0 Gbps (SMPTE 424M, Prog. Scan HDTV)<br>3G-SDI/HDTV BNC's | 172   |

*\*WE SUGGEST TO USE ONLY 85% OF THE RECOMMENDED DISTANCE*

*Formato Vídeo Analógico / Analogue Video Format*

|                                   | TRANSMISSION DISTANCE IN METERS OF ANALOGUE VIDEO SIGNAL WITH MINIMUM LOSSES (MAX -3 dB) |
|-----------------------------------|--|
| M-II (COMPONENT 5,0 MHz BW)       | 225  |
| EBU-C (COMPOSITE 5,5 MHz BW)      | 218,65   |
| BETACAM SP (COMPONENT 4,5 MHz BW) | 238,09   |
| U-MATIC SP (COMPOSITE 4 MHz BW)   | 252,95   |
| S-VHS (COMPOSITE 5,0 MHz BW)      | 225  |
| ANALOG COMPONENT/RGB (5,0 MHz BW) | 225  |

*\*DISTANCE BASED UPON THE LIMIT FREQUENCY OF 5,5 MHz, 5 MHz, 4,5 MHz and 4 MHz.*

*SMPTE 276M- unbalanced audio*

|   | MAXIMUM TRANSMISSION DISTANCE (meters) AT SERIAL DIGITAL AUDIO DATA RATES (AES3-1992) |
|---|---|
| DSR (Sampling Rate 32kHz/BW 4,096 MHz)        | 1658,37   |
| CD/DVD (Sampling Rate 44,1 kHz/BW 5,6448 MHz) | 1434,72   |
| DAT (Sampling Rate 48 kHz/BW 6,144 MHz)       | 1382,17   |
| DVD (Sampling Rate 96 kHz/BW 12,228 MHz)      | 1029,86   |
| DVD (Sampling Rate 192 kHz/BW 24,576 MHz)     | 742,94  |

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## DIGITAL COAXIAL VIDEO MULTICORE TVL CABLE

### Pruebas de HD-SDI a 202 metros de VK 70 ENH+ / 202 meters of VK 70 ENH+ under HD-SDI transmission

- Se utiliza un generador de señal de video de alta definición EXTRON VTG400D con una tensión de salida de pico a pico de 800 milivoltios ,una velocidad de datos de 1485Mbps o 1485/1001 Mbps, un jitter timing no superior a 1 UI (673 picosegundos) y un jitter alignment no superior a 0,2 UI (134,6 picosegundos).

*We use an EXTRON VTG400D high definition video signal generator with an output peak-to-peak voltage of 800 millivolts, a data speed of 1485Mbps or 1485/1001 Mbps, a jitter timing under 1 UI (673 picoseconds) and a jitter alignment under 0,2 UI (134,6 picoseconds).*

- El receptor es un WFM700M de Tektronix / *The receiver is WFM700M Tektronix*

| RATE NAME             | BIT RATE                   | H FREQ / V FREQ    |
|-----------------------|----------------------------|--------------------|
| 720 p 1280 x 720      | 1.485/1.001 (1.4835) Gbps  | 44.96kHz / 59.94Hz |
| 720 p 1280 x 720      | 1.4850 Gbps                | 45.00kHz / 60.00Hz |
| 1080i 1920 x 1080     | 1.4850/1.001 (1.4835) Gbps | 33.72kHz / 29.97Hz |
| 1080i 1920 x 1080     | 1.4850 Gbps                | 33.75kHz / 30.00Hz |
| 1080p 1920 x 1080     | 1.4850 Gbps                | 33.75kHz / 30.00Hz |
| 1080p 1920 x 1080     | 1.4850/1.001 (1.4835) Gbps | 33.72kHz / 29.97Hz |
| 1080p 1920 x 1080     | 1.4850 Gbps                | 27.00kHz / 24.00Hz |
| 1080p(sf) 1920 x 1080 | 1.4850 Gbps                | 27.00kHz / 24.00Hz |
| 1080p(sf) 1920 x 1080 | 1.4850/1.001 (1.4835) Gbps | 26.97kHz / 23.98Hz |

The screenshot shows a 'Video Status' and 'Video Session - Running' interface. The 'Video Status' section includes parameters like Input (1A (WFM7M)), Signal (1.4850 Gb/s), Format Exp (Any Supported), Format Det (1080i 50.00), Colorimetry (BT.709 (AUTO)), Embedded Audio (No Emb. audio), Ancillary Data (None), Active Video Width (10 bits), Timecode (None), Selected Ref (INT), Ref Format (N/A), CC (Missing), Y Stuck Bits (---), C Stuck Bits (---), Y Errored Lines (0), and C Errored Lines (0). The 'Video Session - Running' section shows SMPTE 292 CRC, Y Errored Seconds (0), Y Errored Fields (0), Y % Errored Fields (---), Y Status (OK), C Errored Seconds (0), C Errored Fields (0), C % Errored Fields (---), C Status (OK), RGB Errored Seconds (0), RGB Errored Fields (0), RGB % Errored Fields (---), RGB Gamut Status (NA), V+C Errored Seconds (0), V+C Errored Fields (0), V+C % Errored Fields (---), V+C Gamut Status (NA), Luma Errored Seconds (0), Luma Errored Fields (0), Luma % Errored Fields (---), and Luma Gamut Status (NA). At the bottom, there are buttons for 'Aud/Vid/Aux Data Session', 'Display: Session', 'Video Session', 'Aux Data Status', 'Session: Stopped Running', and 'Reset Session'.

Errores en tx. de señal de video / Video session errors.

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## DIGITAL COAXIAL VIDEO MULTICORE TVL CABLE

### Pruebas de 3G-SDI a 172 metros de VK 70 ENH+ / 172 meters of VK 70 ENH+ under 3G-SDI transmission

- Se utiliza un generador de señal de video progresivo de alta definición (3G-SDI) y monitor de forma de onda de la marca Tektronix, modelo WFM 8300, con una velocidad de transmisión de datos de 2.970 Gbps (SMPTE 424/425M) y un refresco de pantalla de 50/59.94/60 Hz.

*We use a progressive high definition video signal generator (3G-SDI) and a Tektronix WFM 8300 waveform monitor, with a data transmission speed of 2.970 Gbps (SMPTE 424/425M) and a screen refresh rate of 50/59.94/60 Hz.*

| RATE NAME                | BIT RATE   | V FREQ / FORMAT             |
|--------------------------|------------|-----------------------------|
| 1080p (1920 X 1080p) @50 | 2.970 Gbps | 50 Hz / YCbCr 4:2:2 10 bits |
| 1080p (1920 X 1080p) @60 | 2.970 Gbps | 60 Hz / YCbCr 4:2:2 10 bits |



Errores en tx. de señal de video / Video session errors.

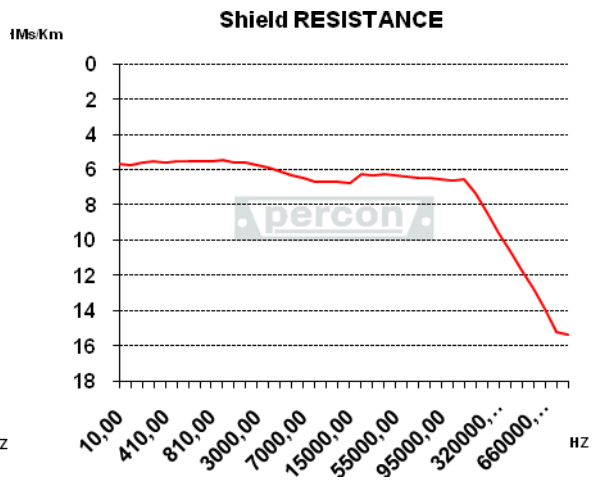
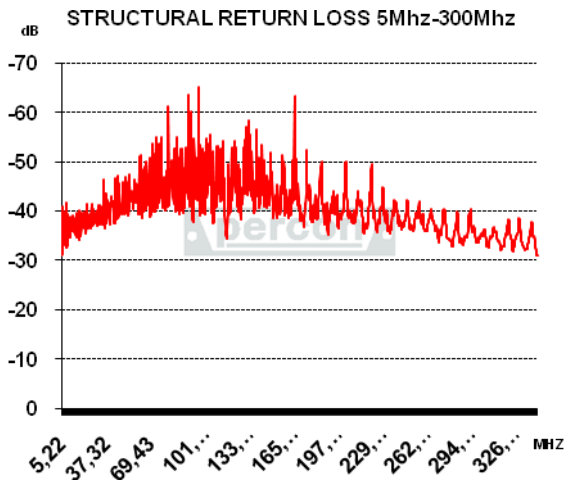
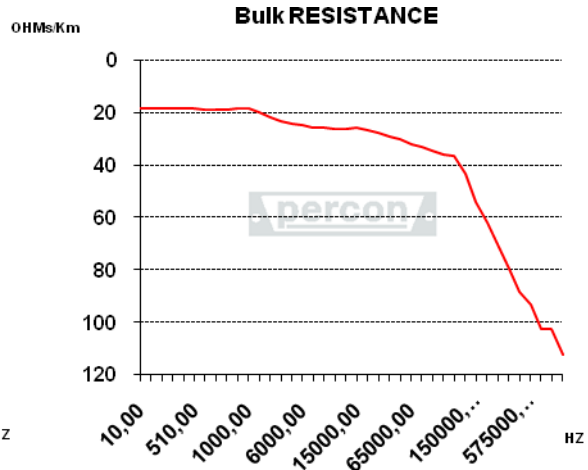
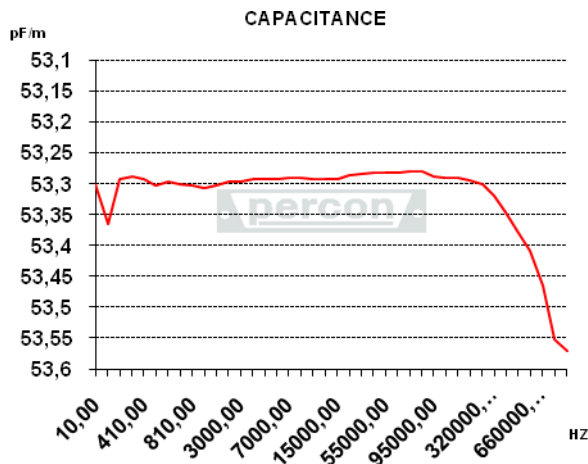
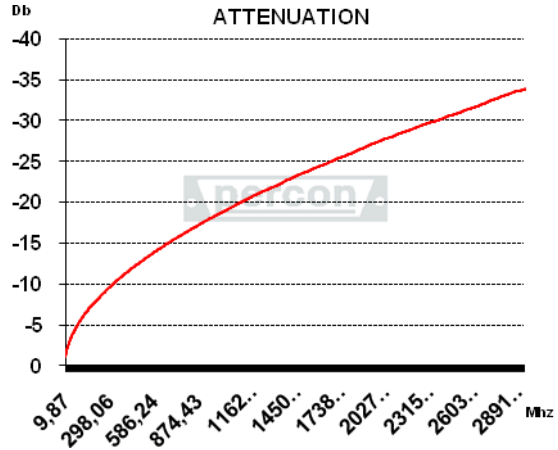
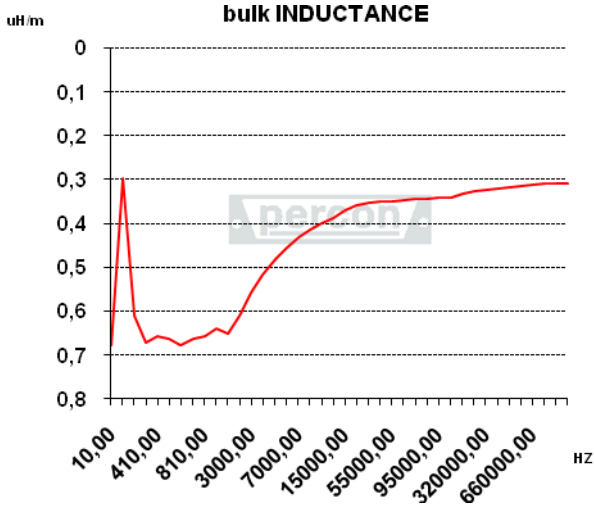


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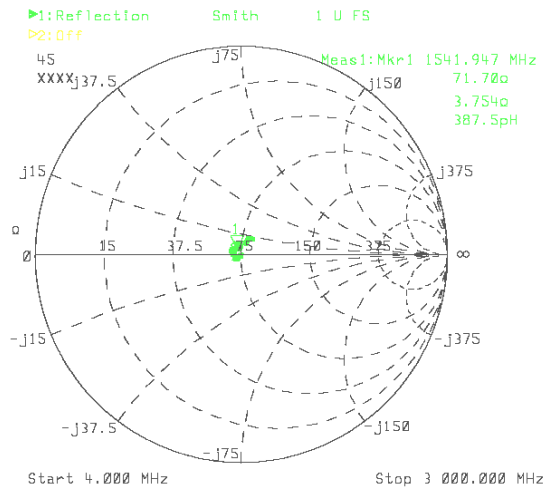
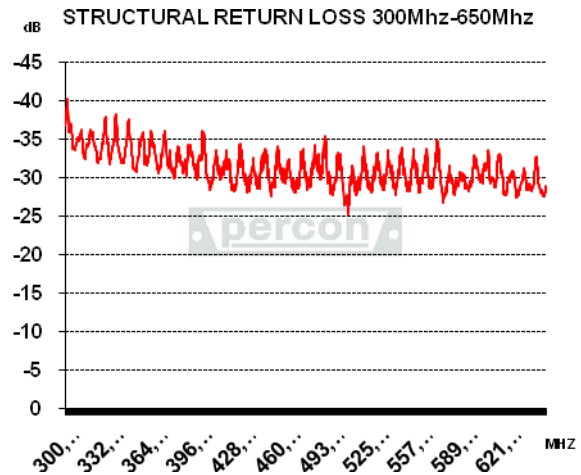
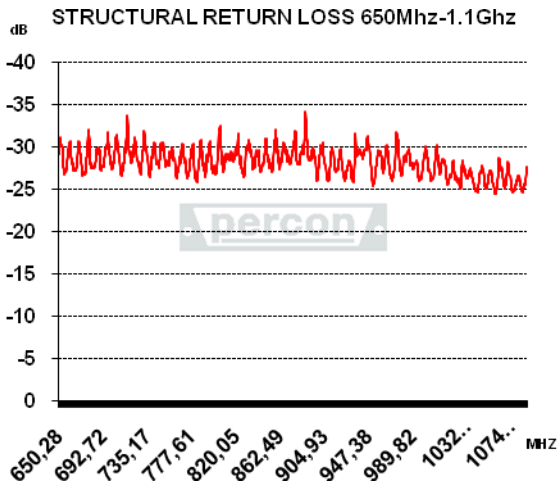


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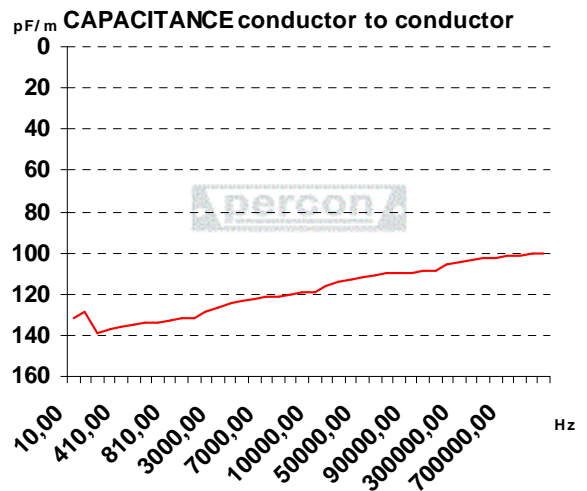
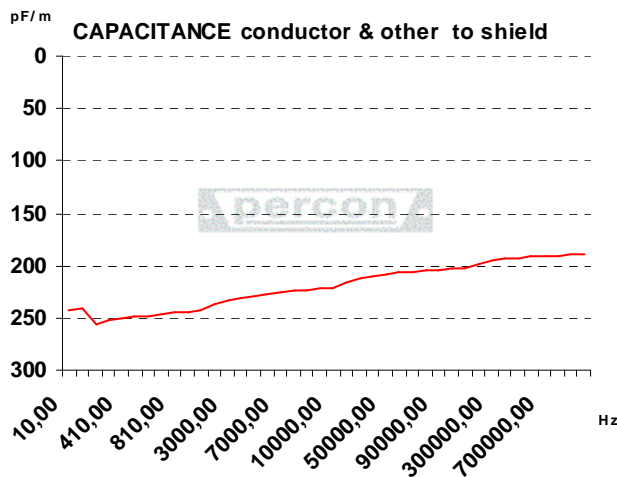
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AUDIO CABLE AK 220 AL DATA:

|  |              |         |
|--|--------------|---------|
| Impedancia del núcleo @ 1Khz/impedance @ 1Khz  | $\Omega$ /Km | 98,3146 |
| Cap. conductor a conductor y masa @ 1Khz/<br>Cap. between Conductor and other to shield @ 1Khz | pF/m         | 242,597 |
| Resistencia malla en DC/shield DC resistance   | $\Omega$ /Km | 36,7842 |
| Cap. entre conductor y conductor a @ 1Khz/<br>Cap. between conductor to conductor @ 1Khz       | pF/m         | 131,528 |
| Resistencia del vivo en DC/<br>Conductor DC Resistance   | $\Omega$ /Km | 98,7417 |
| Inductancia del vivo a 1Mhz/<br>Conductor inductance @ 1Mhz                                    | $\mu$ H/m    | 0,57107 |
| <b>ATENUACIÓN/ATTENUATION</b>  | Frec (Khz)   | dB/100m |
|  | 348,259      | -3,15   |
|  | 2712,935     | -11,54  |
|  | 5125,871     | -14,52  |
|  | 6814,925     | -16,01  |
|  | 7538,806     | -16,56  |
|  | 8745,274     | -17,51  |
|  | 9469,154     | -18,02  |
|  | 9951,741     | -18,10  |



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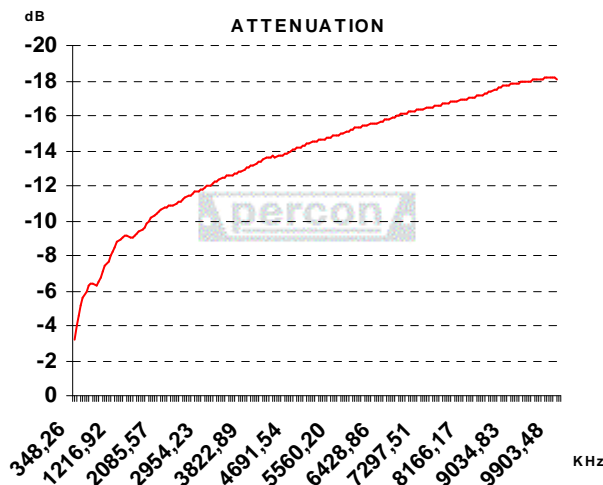
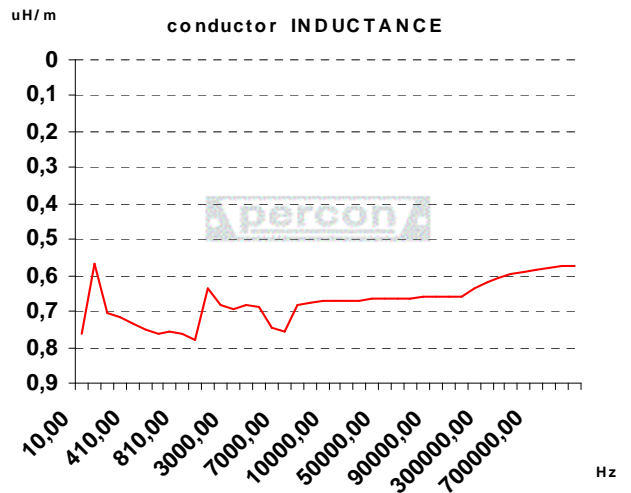
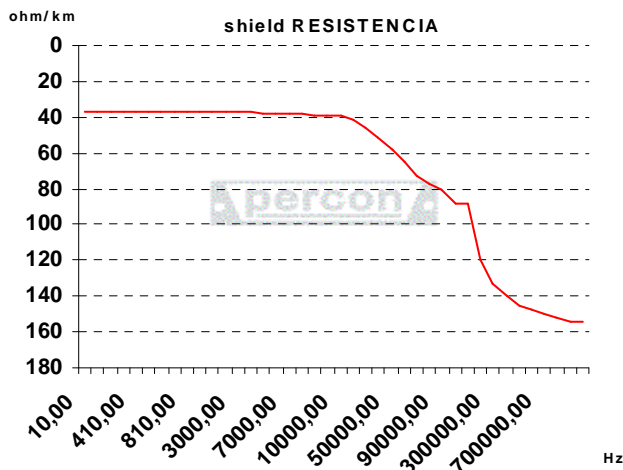
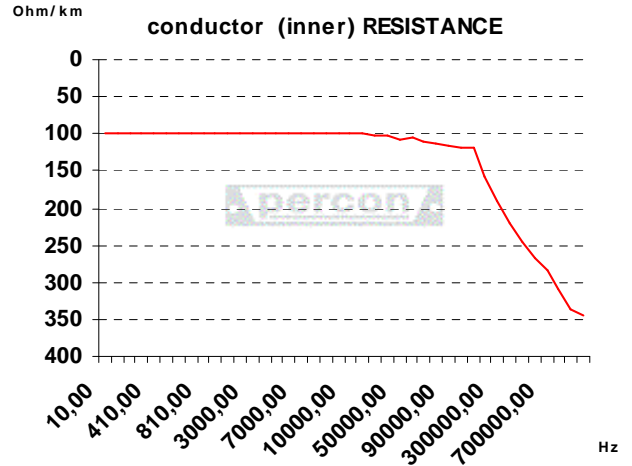
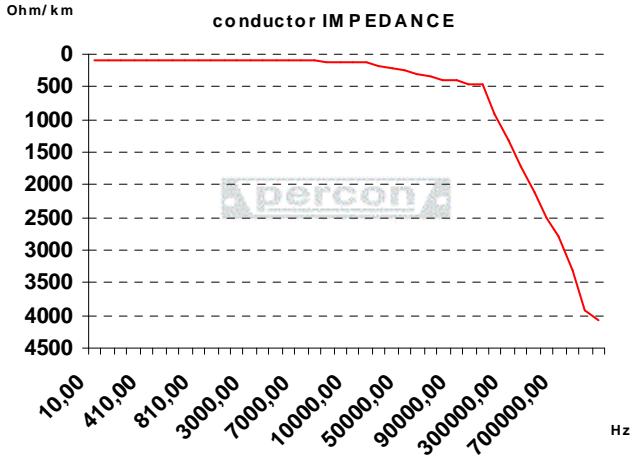


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