

**SF/UTP, 100Ω, 4x2xAWG24/1, premium grade Category 5e cables for installation in horizontal and backbone areas**

### Network Applications:

CCITT I.430 (1) ISDN 0,64/2 Mbit/s; Ethernet IEEE 802.3 10 BaseT 10 Mbit/s; Token Ring IEEE 802.5 4/16 Mbit/s; IEEE 802.12 100 VG AnyLAN 100 Mbit/s; IEEE 802.3u Fast Ethernet 100 BaseT 100 Mbit/s; DQDB; Video; ANSI X3T9.5 FDDI TP-PMD 125 Mbit/s; ATM Forum 155 Mbit/s; IEEE 802.3ab Gigabit Ethernet 1000 BaseT

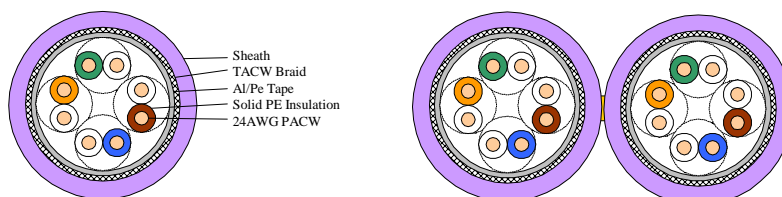
### Applicable Cable & Cabling Standards:

ISO 11801:1995; ISO 11801:1995 & A1,A2:1999; FDIS ISO 11801:2002; FDIS ISO 61156-5  
EN 50173:1995 & A1:2000; prEN 50173:2002; EN50167, EN 50169, prEN 50288-2-1

### Conformance verified by:

3P Third Party Testing,  
Denmark

### Cable Structure:



#### Core

Conductor: 24 AWG Plain Annealed Copper Wire  
Insulation: Polyolefin  
Diameter: 1.10 mm nominal  
Pair: 2 of the above cores  
Pair colour code: Blue -White/Blue, Orange - White/Orange, Green - White/Green, Brown - White/Brown

#### Final Assembly

Cable: 4 of the above pairs  
Binder: Wrapped with polyester tape, 100% coverage  
Tape screen: Wrapped with aluminium polyester tape, applied metal side out  
Braid screen: 0.127mm Tinned Annealed Copper Wire, 30% minimum coverage  
Sheath: RAL 7037 Grey PVC or RAL 4005 Violet, flame retardant, zero halogen, thermoplastic, polyolefin compound

#### Example of print legend for GPS

BRAND-REX LTD GPS 4 PAIR 24 AWG GigaPlus Rev 1 S-FTP IEC 60332-1 ENHANCED CATEGORY 5 EN 50173 + ISO/IEC 11801 + TIA/EIA 568B NVP 68% WWYY ββββββ \*\*\*\*\*  
(WWYY = Week/Year of manufacture, ββββββ = batch number, \*\*\*\*\* = sequential metre mark)

Brand-Rex Part No.	GPS	GPS-D	GPS-HF1	GPS-HF1-D	GPS-HF3	GPS-HF3-D
Outer sheath	PVC	PVC	LSF/OH	LSF/OH	FR-LSF/OH	FR-LSF/OH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable weight	48.9 Kg/km	97.8 Kg/km	51.0 Kg/km	102.0 Kg/km	58.8 Kg/km	117.6 Kg/km
Calorific value	0.14 kWh/m	0.28 kWh/m	0.12 kWh/m	0.24 kWh/m	0.16 kWh/m	0.32 kWh/m
Outer diameter ( nom. )	6.1 mm	12.2 x 6.1 mm	6.1 mm	12.2 x 6.1 mm	6.7 mm	13.4 x 6.7 mm
Sheath colour	Grey RAL 7037		Violet RAL 4005			
Fire Safety rating	IEC 60332 Part 1				IEC 60332 Part 3c	
Acid Gas Emissions	na		IEC 60754-2			
Smoke Index	na		IEC 61034			

Rev	Date	Author	Review	Amendment	Description:
	26/04/01	PS	JW	First issue replacing DAT5790	<b>Communication Cable</b> <b>SF/UTP, 100Ω, 4x2xAWG24/1</b>
1	19.11.02	KGH	PK,JW	Changed format & updated specs., added typicals	
					Datasheet No. G40547

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## Mechanical characteristics

Minimum bend radius: 8 x Outer Diameter (installation) & 4 x Outer Diameter (operational)  
 Temperature range: 0 to 50 °C (installation) & -20 to 75 °C (operational)  
 Max Tensile load: 10kg simplex cable (installation)

## Electrical Characteristics @ 20°C

Characteristic	Specification	Typical performance
Conductor Loop Resistance	Max 19 Ω/100m	16 Ω/100m
Conductor Resistance Unbalance	Max 2 %	0.5 %
Dielectric Strength	1.0kV d.c. or 0.7kV a.c. for 1min	100% in process test
Insulation resistance	>500 MΩ.km @ 100-500V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 1600 pF/km	40 pF/km
Velocity of Propagation	<537.6 nS/100m @ 100MHz	496 nS/100m @ 100MHz (NVP for hand held testers = 0.68)
Skew	Max 40 nsec/100m @ 100MHz	25 nsec/100m @ 100MHz
Mean Characteristic Impedance	100 Ω ± 5Ω @ 100 MHz	100 Ω ± 3Ω @ 100 MHz
Transfer Impedance	Max 100 mΩ/m @ 10MHz	20 mΩ/m @ 10MHz (ISO 61156 grade 2 cable - see fig 2)
Coupling Attenuation up to 1GHz (ffs)	Min 55dB	80dB

frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250
Insertion Loss (dB/100m)	Spec*	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.4	na	na	na
	Typical	2.0	3.8	6.0	7.6	8.6	10.8	15.8	20.4	26.1	30.3	34.5
NEXT (dB)	Spec*	65.3	56.3	50.3	47.2	45.8	42.9	38.4	35.3	na	na	na
	Typical	73.3	64.3	58.3	55.2	53.8	50.9	46.4	43.3	40.4	38.8	37.3
PSNEXT (dB)	Spec*	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	na	na	na
	Typical	70.3	61.3	55.3	52.2	50.8	47.9	43.4	40.3	37.4	35.8	34.3
ELFEXT (dB/100m)	Spec*	63.8	51.8	43.8	39.7	37.8	33.9	27.9	23.8	na	na	na
	Typical	78.8	66.8	58.8	54.7	52.8	48.9	42.9	38.8	35.0	32.8	30.8
PSELFEXT (dB/100m)	Spec*	60.8	48.8	40.8	36.7	34.8	30.9	24.9	20.8	na	na	na
	Typical	76.8	64.8	56.8	52.7	50.8	46.9	40.9	36.8	33.0	30.8	28.8
Return loss (dB)	Spec*	na	23.0	25.0	25.0	25.0	23.6	21.5	20.1	na	na	na
	Typical	25.0	28.0	30.0	30.0	30.0	28.6	26.5	25.1	23.8	23.0	22.3
ACR (dB/100m)	Typical	71.3	60.5	52.3	47.6	45.2	40.0	30.6	22.9	14.3	8.5	2.9
PSACR (dB/100m)	Typical	68.3	57.5	49.3	44.6	42.2	37.0	27.6	19.9	11.3	5.5	-0.1

\*prEN50288-2-1 December 2001

Figure 1: ACR chart

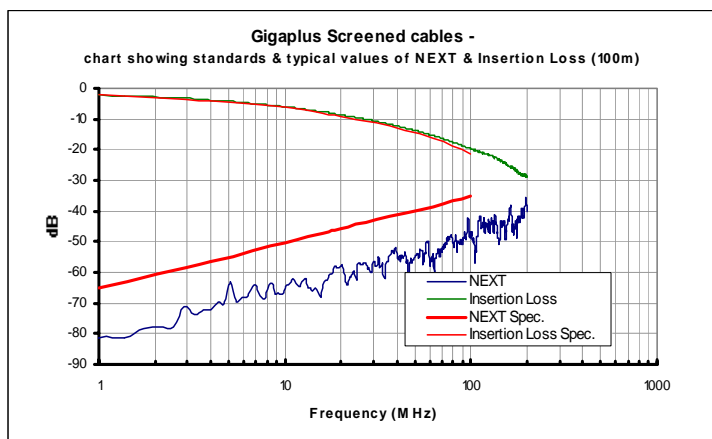


Figure 2: STI chart

