Brand-Rex Part Number	GPF, GPF-D, GPF-HFI, GPF-HF1-D, GPF-HF3, GPF-HF3-D	Rev 2	www.brand-rex.com

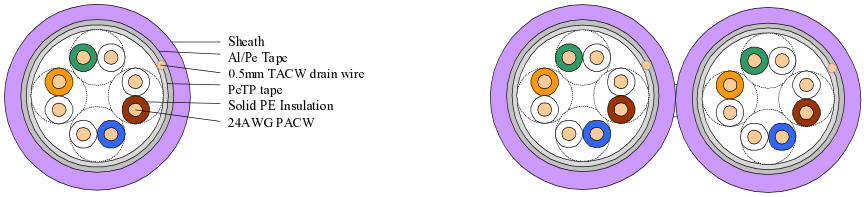
F/UTP, 100Ω, 4x2xAWG24/1, premium grade Category 5e cables for installation in horizontal and backbone areas

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 11801:2002; ISO 61156-5
EN 50173:2002; EN 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
Drainwire: 0.5mm solid tin copper
Tape screen: Wrapped with aluminium polyester tape, applied metal side in
Sheath: RAL 7037 Grey PVC or RAL 4005 Violet, flame retardant, zero halogen, thermoplastic, polyolefin compound

Example of print legend for GPF
BRAND-REX LTD GPF 4x2xAWG24 ISO 11801:2002 Class D
IEC 60332-1 NVP 0.68 WWYY βββββββ ******
(WWYY = Week/Year of manufacture, βββββββ = batch number, ****** = sequential metre mark)

Brand-Rex Part No.	GPF	GPF-D	GPF-HF1	GPF-HFI-D	GPF-HF3	GPF-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	38.5 Kg/km	77 Kg/km	38.5 Kg/km	77 Kg/km	54.6 Kg/km	109.2 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.)	5.9 mm	11.8 x 5.9 mm	5.9 mm	11.8 x 5.9 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
	26/04/01	PS	JW	First issue replacing DAT5790
1	21.11.02	KGH	PK,JW	Changed format & updated specs., added typicals
2	2.2.07	JW	IW	Print

Description:
Communication Cable
F/UTP, 100Ω, 4x2xAWG24/1

Datasheet No. G40546

Headquarters and Registered Offices : Glenrothes Fife KY6 2RS, Scotland **Tel+44 (0) 1592 772124** **Fax +44 (0) 1592 775314**

Mechanical characteristics

Minimum bend radius: 8 x Outer Diameter (installation) & 4 x Outer Diameter (operational)
Temperature range: 0 to50 °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	30 mΩ/m @ 10MHz (ISO 61156 grade 2 cable - see fig 2)
Coupling Attenuation up to 1GHz (ffs)	Min 55dB	75dB

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*

EN50288-2-1 December 2001

Figure 1: ACR chart

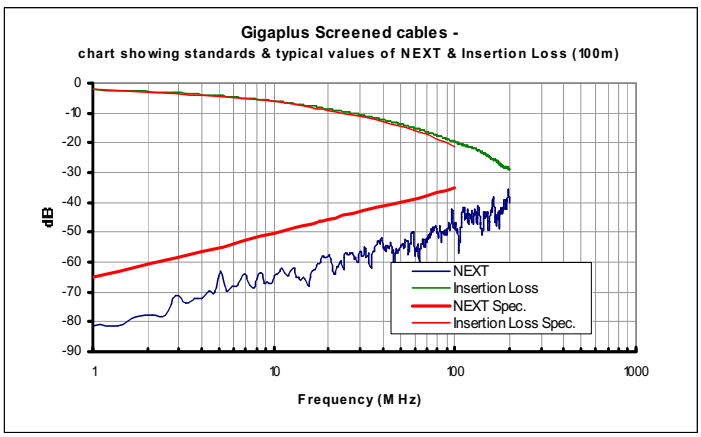


Figure 2: STI chart