

## DATA SHEET

### MODULETEK: Grading Fiber Patch Cord According To IEC

#### Introduction

Fiber patch cords are one of the most commonly used components in fiber optic networks, but the optical performance levels of jumpers are far apart. Based on the IEC61753-1 standard, MODULETEK has a comprehensive jumper product performance grading system that provides connectors at all levels and provides custom Grade A-level fiber patch cords.

#### Product Features

- Compliance with IEC 61753-1 test standards
- Low insertion loss, high return loss
- Providing LC,SC,FC connectors
- Corning bends insensitive fiber
- Minimum allowable static bending radius:7.5mm
- Three kinds of different end faces: PC/UPC、APC
- High repeatability and interchangeability



#### Random Mating IL Performance Grades

	Connector Grade	Master Cord	Random Mating Average	Random Mating for 97%
Grade According to IEC 61753-1	Grade A	$\leq 0.15\text{dB}$ (Customizable)	$\leq 0.08\text{dB}$ (Customizable)	$\leq 0.2\text{dB}$ (Customizable)
	Grade B	$\leq 0.2\text{dB}$	$\leq 0.12\text{dB}$	$\leq 0.25\text{dB}$
	Grade C	$\leq 0.3\text{dB}$	$\leq 0.25\text{dB}$	$\leq 0.5\text{dB}$
	Grade D	$\leq 0.3\text{dB}$	$\leq 0.5\text{dB}$	$\leq 1.0\text{dB}$

## Ordering Information

GB – LC/PC – LC/PC – G657A1 – 3.0 – LSZH – LM – D – 00

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

Item	Unit	Parameter
① Connector Level	–	GA:Grade A,GB:Grade B,GC:Grade C,GD:Grade D
② Connector Type	–	FC,SC,ST,MU,LC
③ End Face	–	PC/UPC,APC
④ Connector Type	–	FC,SC,ST,MU,LC
⑤ End Face	–	PC/UPC,APC
⑥ Fiber Mode	–	G657A1
⑦ Cable Diameter	mm	3.0,2.0,1.6,0.9
⑧ Cable Material	–	PVC,OFNR(Riser),OFNP(Plenum),LSZH
⑨ Cable Length	M	L=1,2,3,4...
⑩ Fiber Cable	–	S:simplex(Omitted),D:Duplex
⑪ Version number	–	00
Example: GB-LC/PC-LC/PC-G657A1-2.0-LSZH-3M-D-00		
<b>For More Information:</b> ModuleTek Limited Web: <a href="http://www.moduletek.com">www.moduletek.com</a> Email: <a href="mailto:sales@moduletek.com">sales@moduletek.com</a>		

## Terminology analysis

### ① Applicable scene of optical cable material

The outer sheath of the fiber optic cable is divided into different material types. The outer sheath of each material has its inherent characteristics (such as different fire performance), suitable for use. The common outer sheath material is divided into PVC, Riser (OFNR), Plenum (OFNP), LSZH, etc. The performance and applicable environment of the above materials are shown in the following tables.

Optical cable material	Applicable scenario
PVC	The application scenario has good mechanical properties, high power insulation, strong flexibility, strong flame retardancy and good stability, but it is stable and qualitative for light and heat. It is suitable for outer sheath materials for indoor optical fiber cables.
OFNR	Riser is one of the main components for the formation of OFNR grade optical fiber cable. Its flame-retardant performance is weaker than plenum material, and there is no toxic gas and corrosive gas. Therefore, the ofNR grade optical fiber cable with riser material is usually used in the building trunk and horizontal cables.
OFNP	Plenum is one of the main components of OFNP grade optical fiber cable. It has high flame retardancy and no toxic gas or corrosive gas will be generated at extremely high temperature. Fiber optic cable with plenum material is the first choice for wiring in the air return pressurization system used for ventilation pipe or air treatment equipment.
LSZH	With low smoke, low toxicity, low corrosion and high flame resistance, LSZH is an ideal choice for indoor / outdoor installation as a safety and environmental protection material. But similarly, the price of fiber optic cable with LSZH material is also more expensive.

**Note:** if the customer does not specify the outer sheath material, LSZH material is selected by default

## ② Conventional product model weight reference table

Conventional product model	Weight (g)	Each additional meter of cable weight (g)
LC-LC-2.0-1M-D-00	16.2	6.4
LC-LC-2.0-1M-S-00	10.2	3.2
SC-LC-2.0-1M-D-00	21.4	6.4
SC-LC-2.0-1M-S-00	12	3.2
SC-SC-2.0-1M-D-00	26.6	6.4
SC-SC-2.0-1M-S-00	13.8	3.2