

PICO & MINI BREAKOUT

OPTICAL CABLES

the FTTH solution



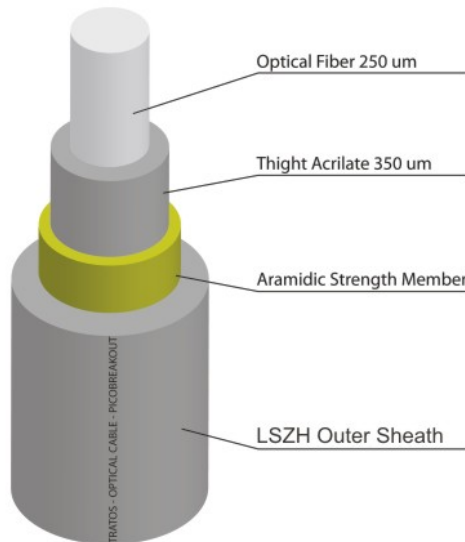
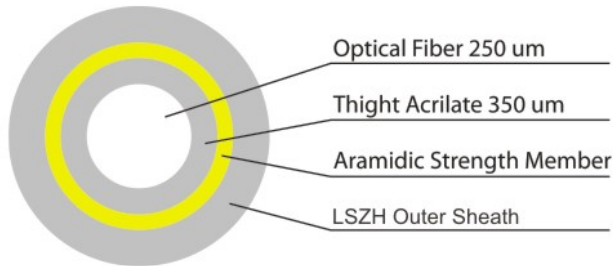
TRATOS  [®]
CAVI



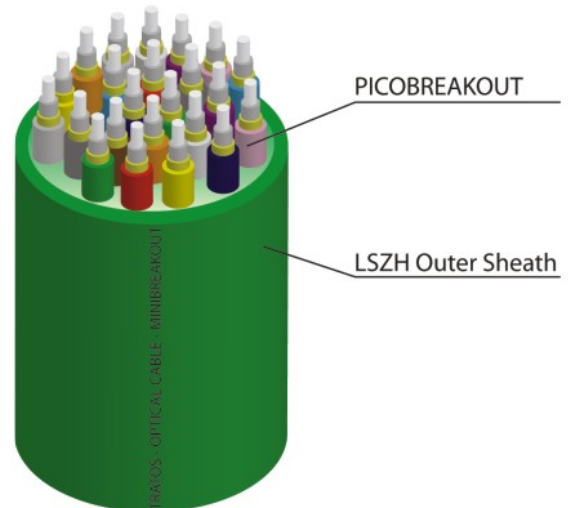
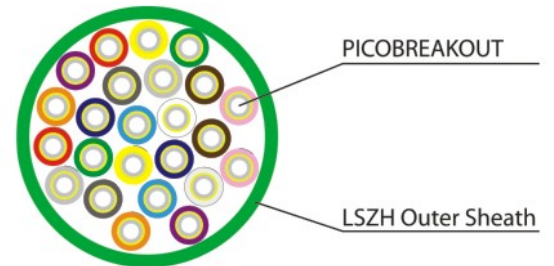
CABLE
TECHNOLOGIES

The MINI-BREAKOUT is composed by 4, 12 or 24 PICO-BREAKOUT Cables under an overall LSZH outer sheath.

PICO BREAKOUT CONSTRUCTION



MINI BREAKOUT CONSTRUCTION



COLOUR CODES









Nº FIBER	COLOUR	Nº FIBER	COLOUR	Nº FIBER	COLOUR
1	Red	9	White	17	Blue + One black ring
2	Light Green	10	Aqua	18	Purple + One black ring
3	Yellow	11	Pink	19	Dark Green + One black ring
4	Brown	12	Grey	20	Orange + One black ring
5	Blue	13	Red + One black ring	21	White + One black ring
6	Purple	14	Light Green + One black ring	22	Aqua + One black ring
7	Dark Green	15	Yellow + One black ring	23	Pink + One black ring
8	Orange	16	Brown + One black ring	24	Grey + One black ring



CONSTRUCTION AND DIMENSIONAL CHARACTERISTICS

Fiber n°	PICO-BREAKOUT	MINI-BREAKOUT		
	nominal diameter mm	Outer sheath nom.Thick. mm	Nominal Outer diameter mm	Nominal cable weight kg/km
4	0,8 mm	1,0	4,0	40
12		1,0	6,0	50
24		1,0	8,0	75

MINI-BREAKOUT VALUES

	TEST	REF. NORM	NOMINAL VALUES
	Minimum bending radius	IEC 60794-1-2 - E18A	20 x outer diameter
	Tensile test	IEC 60794-1-2 - E1A e B	Short term: MAX Load applicable 300 N Attenuation increase less than 1 dB (not permanent) at 1.550 nm
			Longue term: MAX Load applicable 150 N Attenuation increase less than 1 dB (not permanent) at 1.550 nm
	Impact test	IEC 60794-1-2 – E4	Energy: 20 J, n° impact No fiber break and attenuation increase less than 1 dB not permanent at 1.550 nm
	Crush test	IEC 60794-1-2 – E3	Load: ≤ 2000N/10 cm No fiber break and attenuation increase less than 1 dB not permanent at 1.550 nm
	Strippability test	IEC 60794-1-2-E5 IEC 60793-1-32	force ≤ 50 N
	Kink Test	IEC 60794-1-2-e10	minimum loop diameter no king < 20 cm at 20°C
	Temperature range	IEC 60794-1-2 – F5B	-30°C / +60°C Attenuation var. ≤ 0,1db/km at 1.550 nm - 40°C / +70°C For storage and handling

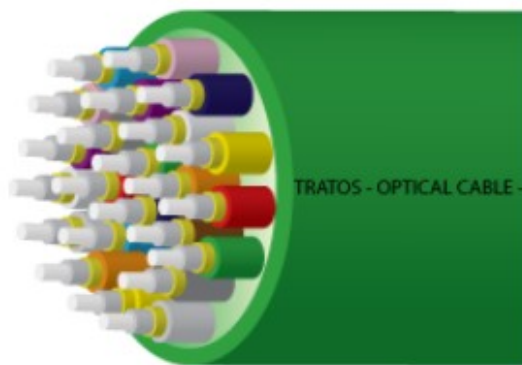
CABLES IDENTIFICATION

Outside every cable must be placed an external marking as follow:

+ TRATOS CAVI + MINIBREAKOUT – Fiber type – lot of production – year of production



MINI-BREAKOUT



INTRODUCTION

As a next step in our FTTH system solution, Tratos Cavi S.p.a. developed the wiring of single and multi-dwelling family units with fiber optic cables and connectivity inside the building from the outside plant cable termination to the customer's interface.

We developed a complete indoor fiber solution incorporated in the product range.

The deployment of FTTH raises many challenges in these environments since building infrastructures can be very different.

In brownfield applications FTTH wiring is very often installed as the third network infrastructure in a building where twisted pair copper and coax cabling in the past were installed.

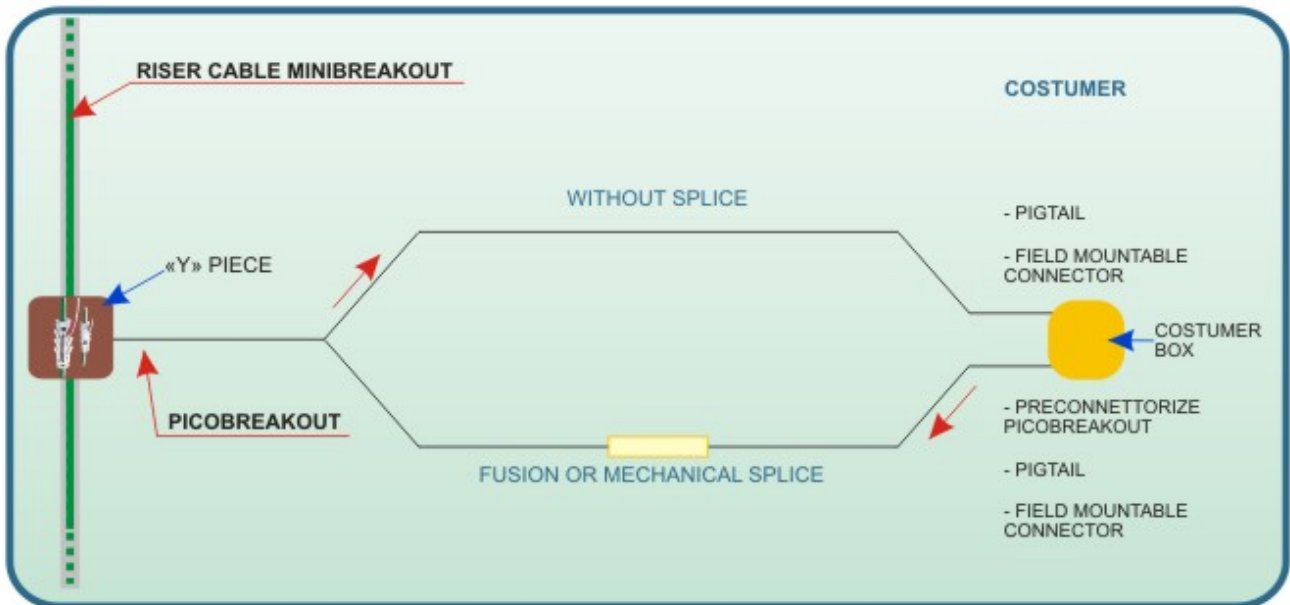
STINGS STRENGTH

- Very compact to fit into small conduits and building floor access points
- Extremely flexible small diameter cables in combination with miniaturized cable accessories
- Reduced need for on-site pre-audits
- The horizontal drop cables can be pulled through existing ducts due to their reinforcement
- A reduced amount of connectivity points (splices, connectors) shortens the installation time
- The time spent inside the customer's premises is minimized
- Optimized for brownfield construction networks

MINI-BREAKOUT

TECHNICAL APPLICATION TO THE FLOOR

Although many methods are possible to reduce installation time and time spent at the customer's premises, we propose the Premises-To-Floor method.

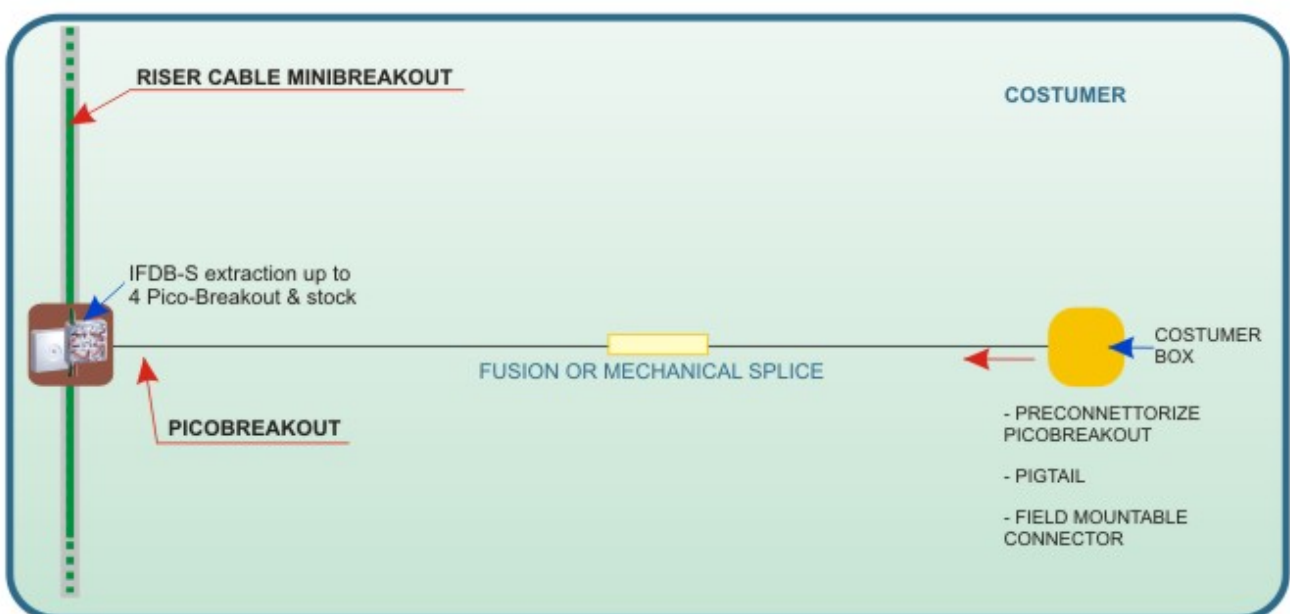


A Mini-breakout riser cable is pulled up or down through the building shaft or duct. At the back end of the cable a connector can be premounted for a fast connection to the building distributor.

To access a fiber at floor level, a small incision is made in the riser cable. The intended fiber is pulled out of the cable and cut at length to connect to the horizontal fiber.

Then a pull wire is pushed from the floor access point to the customer's premises outlet even before the installer enters the customer's flat.

A very compact reinforced fiber (800 micron diameter Pico-breakout) with a premounted connector is attached with its fiber strength element to the pull wire and pulled back to the floor box (floor access point). Here the fiber end of the Pico-breakout is spliced to the fiber (Pico-breakout) extracted from the riser cable.



FLOOR DISTRIBUTION ACCESSORIES

IFDB-M



IFDB-S



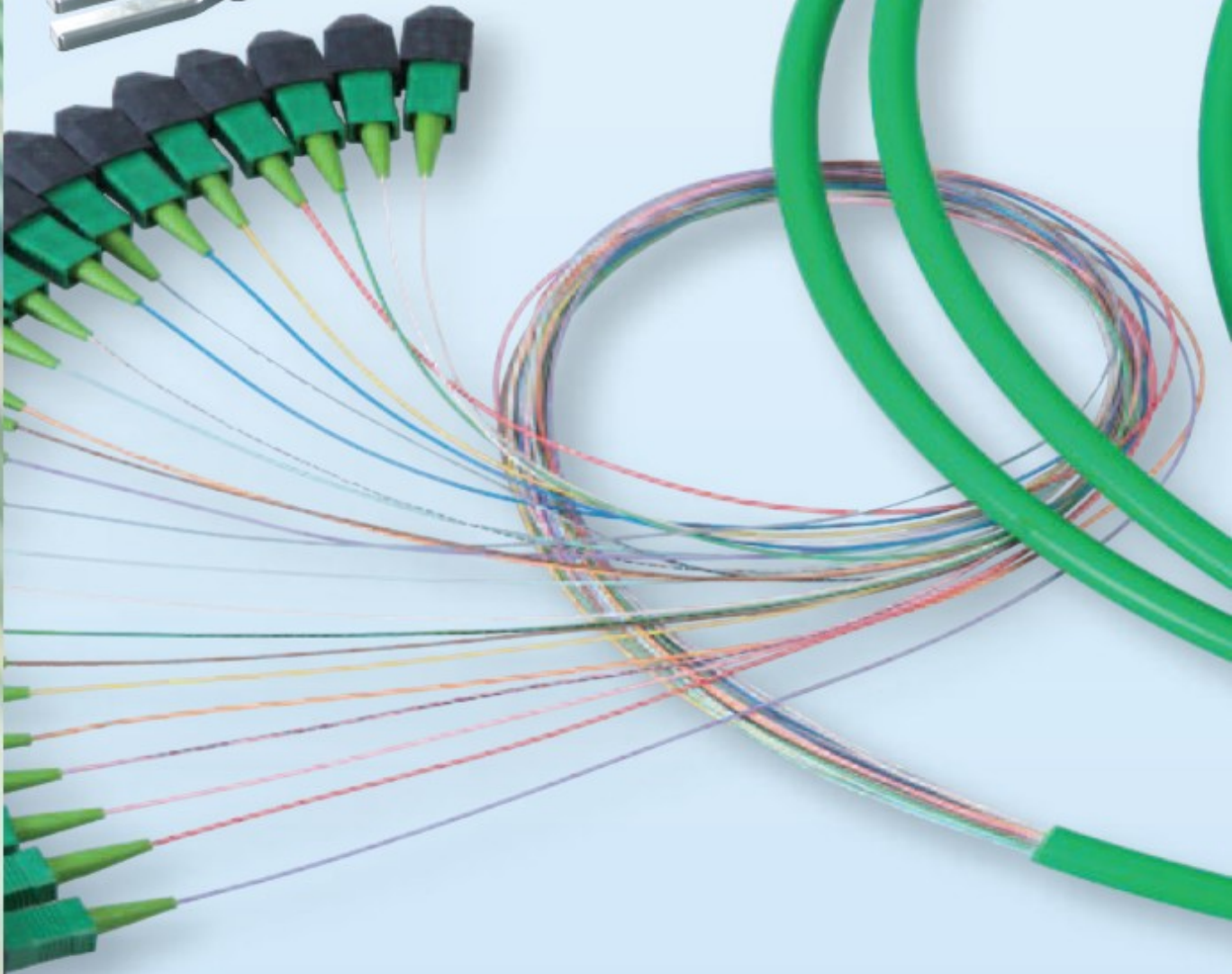
Y



Inline Splice Protector



CABLE CUTTER



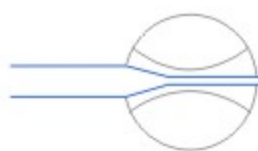
CUSTOMER HOUSE ACCESSORIES

CPWO



HFTP





TRATOS  [®]
CAVI



Tratos Cavi S.p.a.
Via stadio, 2
52036 Pieve S. Stefano
Arezzo - Italia

Tel. +39 0575 7941 Fax. +39 0575 798026
www.tratos.it



British approval service for cables



Certificado de registro de empresa



The International Certification Network