Winncom Technologies
Premier Global Distribution

FIBRAIN®

Fiber Forward: Break Barriers, Drive Innovation, and Master the Future of Connectivity

DATE: Tuesday, January 28th, 2025

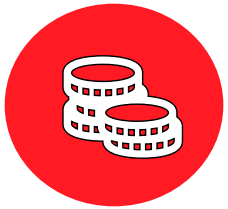
TIME: 2:00 pm EST

CHALLENGES OF DEPLOYING FIBER

Low Population

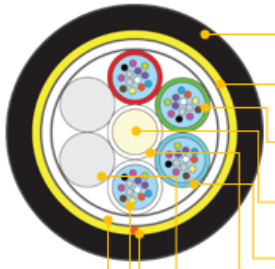
Geographical

Workforce



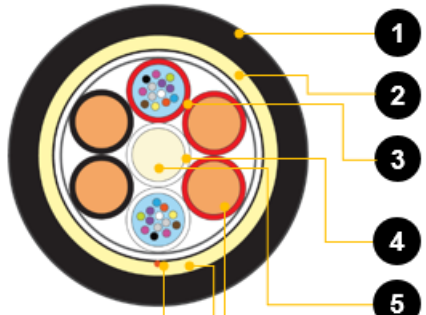
Funds

FIBRAIN SOLUTION To LURE



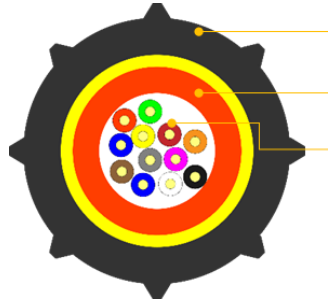
1. PE sheath
2. Aramid yarns
3. Filling compound
4. Central strength member (FRP)
5. Loose tubes (PBT)
6. Water blocking yarns
7. Fillers (if applicable)
8. Optical fibers
9. Water blocking tape
10. Ripcord

ADSS



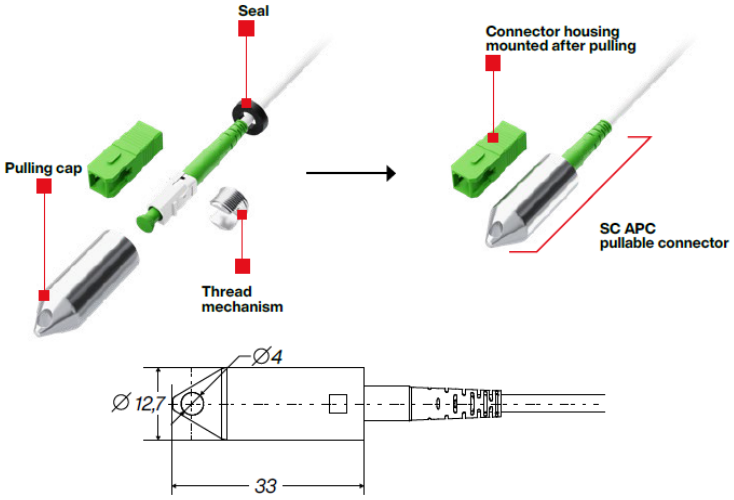
1. PE sheath
2. Fiberglass yarns
3. Loose tubes with optical fibers (PBT)
4. Water blocking yarns on FRP
5. Central strength member (FRP)
6. Insulated 1,5mm² cooper core
7. Water blocking tape
8. Ripcord (two pieces on opposite sides)

HYBRID SOLUTION



1. HDPE outer jacket
2. Aramid yarns
3. Central tube with filling compound
4. Optical fibre

COMPACT SOLUTION



Pre-CONNETORISED SOLUTION

Terminated with special ending

the plug protect the connector's body during pulling operation and allows to install cord

Fast installation for direct pulling

cable kit ready for installation by pulling through the microducts or corrugated tubes

HALNY
High Availability Local Networks

by FIBRAIN

DESIGNED AND DEVELOPED
IN POLAND

Best-in-class independent vendors GPON / XGS-PON ONTs and Ethernet Routers (CPE)

HALNy NETWORKS

MANUFACTURING CENTRES

TOTAL AREA: 38 300 m²

MANUFACTURING: 28 200 m²
LABORATORIES: 2 100 m²
OFFICES: 2 500 m²
WAREHOUSES: 5 500 m²

JASIONKA
ZACZERNIE 1
ZACZERNIE 2
GŁOGÓW MAŁOPOLSKI

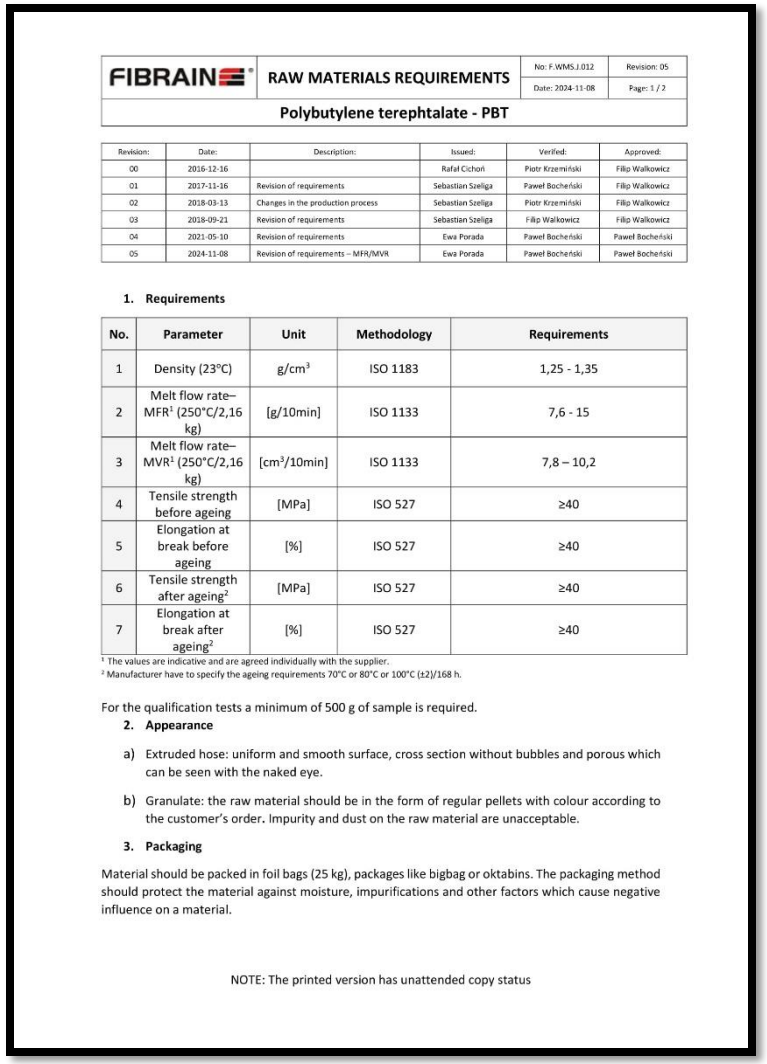
5 R&D and laboratory departments

2.5 million miles per year

RAW-MATERIAL INCOMING INSPECTION

CONTOLLED PARAMETERS:

- VISUAL CONDITION
- TENSILE STRENGTH
- ELONGATION AT BREAK
- GEOMETRIC DIMENSIONS
- BENDING RADIUS
- ELECTRICAL RESISTANCE
- WATER ABSORPTION
- SPEED AND HEIGTH OF SWELLING
- SHRINKAGE
- WINDING QUALITY
- OPTICAL ATTENUATION
- HUMIDITY



FIBRAIN® | RAW MATERIALS REQUIREMENTS | No: F.WMS.J.012 | Revision: 05 | Date: 2024-11-08 | Page: 1 / 2

Polybutylene terephtalate - PBT

Revision:	Date:	Description:	Issued:	Verified:	Approved:
00	2016-12-16		Rafał Cichoń	Piotr Krzemiński	Filip Walkowicz
01	2017-11-16	Revision of requirements	Sebastian Szeliga	Paweł Bocheński	Filip Walkowicz
02	2018-03-13	Changes in the production process	Sebastian Szeliga	Piotr Krzemiński	Filip Walkowicz
03	2018-09-21	Revision of requirements	Sebastian Szeliga	Filip Walkowicz	Filip Walkowicz
04	2021-05-10	Revision of requirements	Ewa Porada	Paweł Bocheński	Paweł Bocheński
05	2024-11-08	Revision of requirements – MFR/MVR	Ewa Porada	Paweł Bocheński	Paweł Bocheński

1. Requirements

No.	Parameter	Unit	Methodology	Requirements
1	Density (23°C)	g/cm³	ISO 1183	1,25 - 1,35
2	Melt flow rate– MFR[1] (250°C/2,16 kg)	[g/10min]	ISO 1133	7,6 - 15
3	Melt flow rate– MVR[1] (250°C/2,16 kg)	[cm³/10min]	ISO 1133	7,8 – 10,2
4	Tensile strength before ageing	[MPa]	ISO 527	≥40
5	Elongation at break before ageing	[%]	ISO 527	≥40
6	Tensile strength after ageing[2]	[MPa]	ISO 527	≥40
7	Elongation at break after ageing[2]	[%]	ISO 527	≥40

[1] The values are indicative and are agreed individually with the supplier.
[2] Manufacturer have to specify the ageing requirements 70°C or 80°C or 100°C (±2)/168 h.

For the qualification tests a minimum of 500 g of sample is required.

2. Appearance

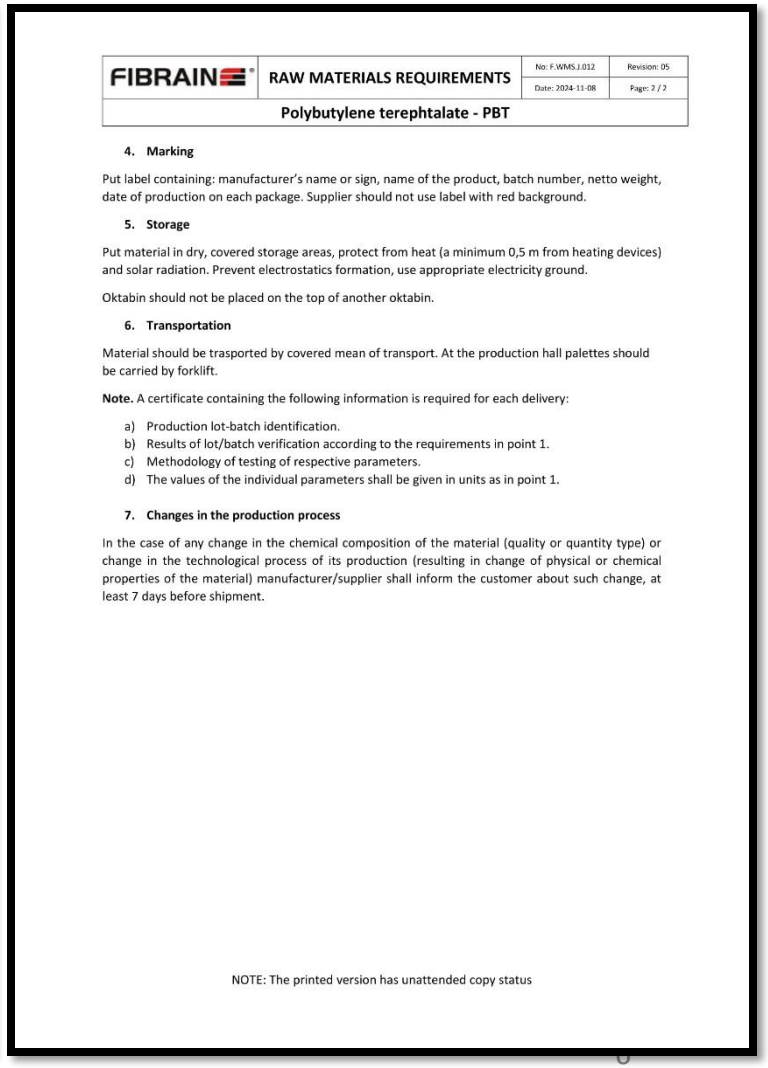
a) Extruded hose: uniform and smooth surface, cross section without bubbles and porous which can be seen with the naked eye.

b) Granulate: the raw material should be in the form of regular pellets with colour according to the customer's order. Impurity and dust on the raw material are unacceptable.

3. Packaging

Material should be packed in foil bags (25 kg), packages like bigbag or oktabins. The packaging method should protect the material against moisture, impurifications and other factors which cause negative influence on a material.

NOTE: The printed version has unattended copy status



FIBRAIN® | RAW MATERIALS REQUIREMENTS | No: F.WMS.J.012 | Revision: 05 | Date: 2024-11-08 | Page: 2 / 2

Polybutylene terephtalate - PBT

4. Marking

Put label containing: manufacturer's name or sign, name of the product, batch number, netto weight, date of production on each package. Supplier should not use label with red background.

5. Storage

Put material in dry, covered storage areas, protect from heat (a minimum 0,5 m from heating devices) and solar radiation. Prevent electrostatics formation, use appropriate electricity ground.

Oktabin should not be placed on the top of another oktabin.

6. Transportation

Material should be trasported by covered mean of transport. At the production hall palettes should be carried by forklift.

Note. A certificate containing the following information is required for each delivery:

a) Production lot-batch identification.
b) Results of lot/batch verification according to the requirements in point 1.
c) Methodology of testing of respective parameters.
d) The values of the individual parameters shall be given in units as in point 1.

7. Changes in the production process

In the case of any change in the chemical composition of the material (quality or quantity type) or change in the technological process of its production (resulting in change of physical or chemical properties of the material) manufacturer/supplier shall inform the customer about such change, at least 7 days before shipment.

NOTE: The printed version has unattended copy status

FIBRAIN

CORE NETWORK

AirTrack

Product overview

www.fibrain.com

RESOURCES | SERVICES | STATE FUNDING OVERVIEW | SUPPLIERS & PRODUCTS | WINNCOM BEAD OVERVIEW | LOGOUT

RESOURCES

Winncom / Nokia First Movers Webinar Series: West Virginia & Kansas:

Winncom & Nokia First Movers Webinar Series. Highlights West Virginia & Kanasas BEAD Applications next steps

RESOURCES

WISP Friendly Fiber: Aerial over Burial

Panel Discussion Recap: . The decision between aerial and buried fiber deployments hinges on understanding fiber optic networks and protecting broadband investments. Aerial fiber, hung above ground, is cheaper and quicker to install but prone to environmental damage. Buried fiber, placed underground, offers better protection and durability but at a higher cost. The choice depends on specific needs such as cost, environmental factors, and maintenance.. Click to learn more.

tech, and architectures. We'll highlight our active fiber products and extensive solutions. I'll delve into our fiber ecosystem, covering bulk fiber, cable assemblies, connectivity, and more. Lastly, I'll discuss

Winncom BEAD Portal

www.winncomus.com/bead/

FIBRAIN varioedge AccessPoint R-KORD

The comprehensiveness of the METROJET system

A pilotage case study for Hungarian railways

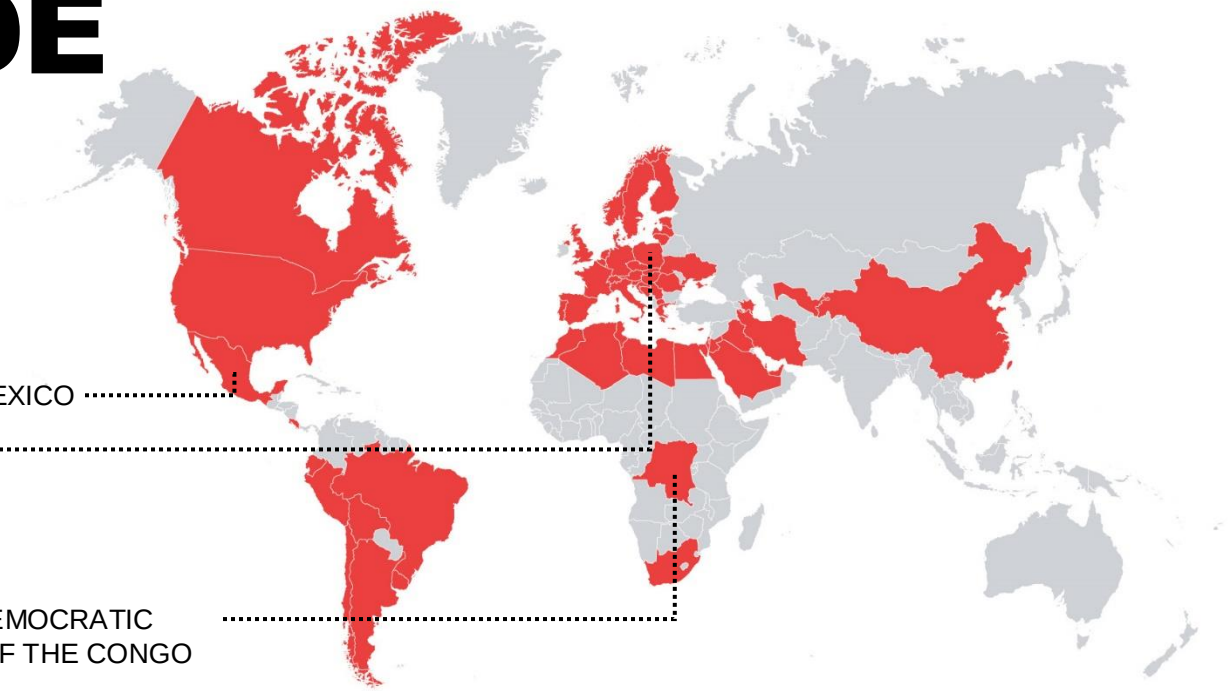
The investor with a smile accepted this information and called the best engineers for the next day - D-day.

Appetizers prepared, so it is time to have fun in good company when the FIBRAIN METROJET is installed.

After talking time to start the job!

Case study to be downloaded from: https://fibrain.com/wp-content/uploads/2021/05/MetroJet-koleje-wegierskie-ENG.pdf

WORLDWIDE PRESENCE



FIBRAIN POLAND

Zaczernie 1
Zaczernie 2
Jasionka
Głogów Małopolski

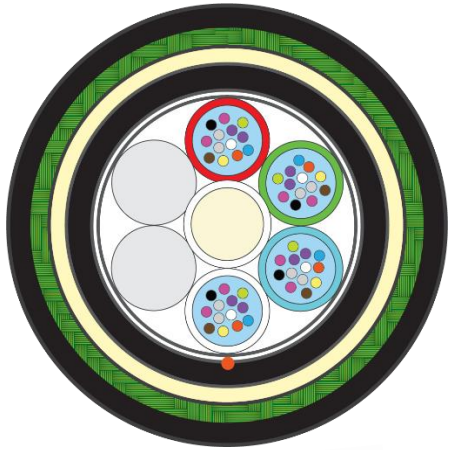
FIBRAIN MEXICO

FIBRAIN DEMOCRATIC REPUBLIC OF THE CONGO

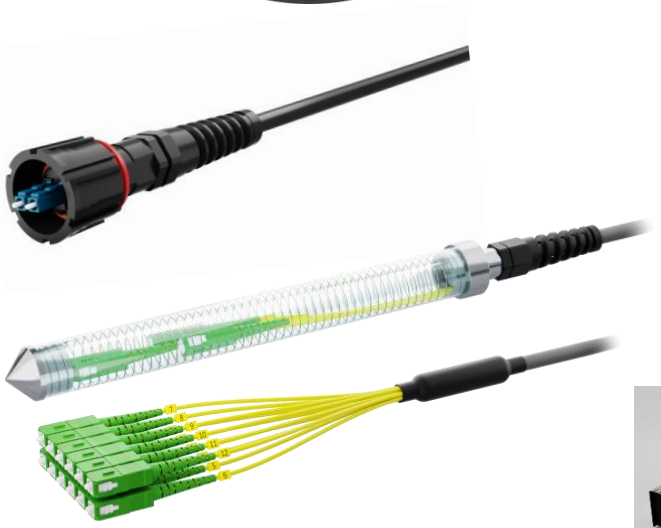
WE COOPERATE AND SELL OUR PRODUCTS TO OVER 80 COUNTRIES WORLDWIDE

- Argentina
- Austria
- Azerbaijan
- Bahrain
- Belgium
- Bolivia
- Bosnia and Herzegovina
- Brazil
- Bulgaria
- Canada
- Chile
- China
- Congo
- Costa Rica
- Croatia
- Curacao
- Cyprus
- Czech Republic
- Denmark
- Democratic Republic of the Congo
- Ecuador
- Egypt
- Estonia
- Finland
- France
- Georgia
- Germany
- Great Britain
- Hungary
- Iraq
- Israel
- Italy
- Jordan
- Kuwait
- Latvia
- Lithuania
- Macedonia
- Malta
- Maroco
- Mexico
- Netherlands
- Norway
- Peru
- Portugal
- Romania
- Saudi Arabia
- Serbia
- Slovakia
- Slovenia
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- Taiwan
- Tunisia
- Ukraine
- United Arab Emirates
- USA
- Uruguay

CUSTOMIZABLE OPTICAL SOLUTION

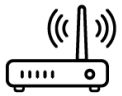


FIBER OPTIC CABLE

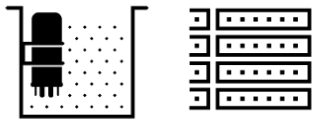


PRE-TERMIATED SOLUTIONS

ACTIVE DEVICES



PLASTICS AND METAL



SCOPE OF SERVICES

VARIOEDGE provides a wide range of services from network design, planning, installation of fiber optic cables, fiber enclosures and junction boxes, fiber splicing to optimization services.

DESIGN DEPARTMENT

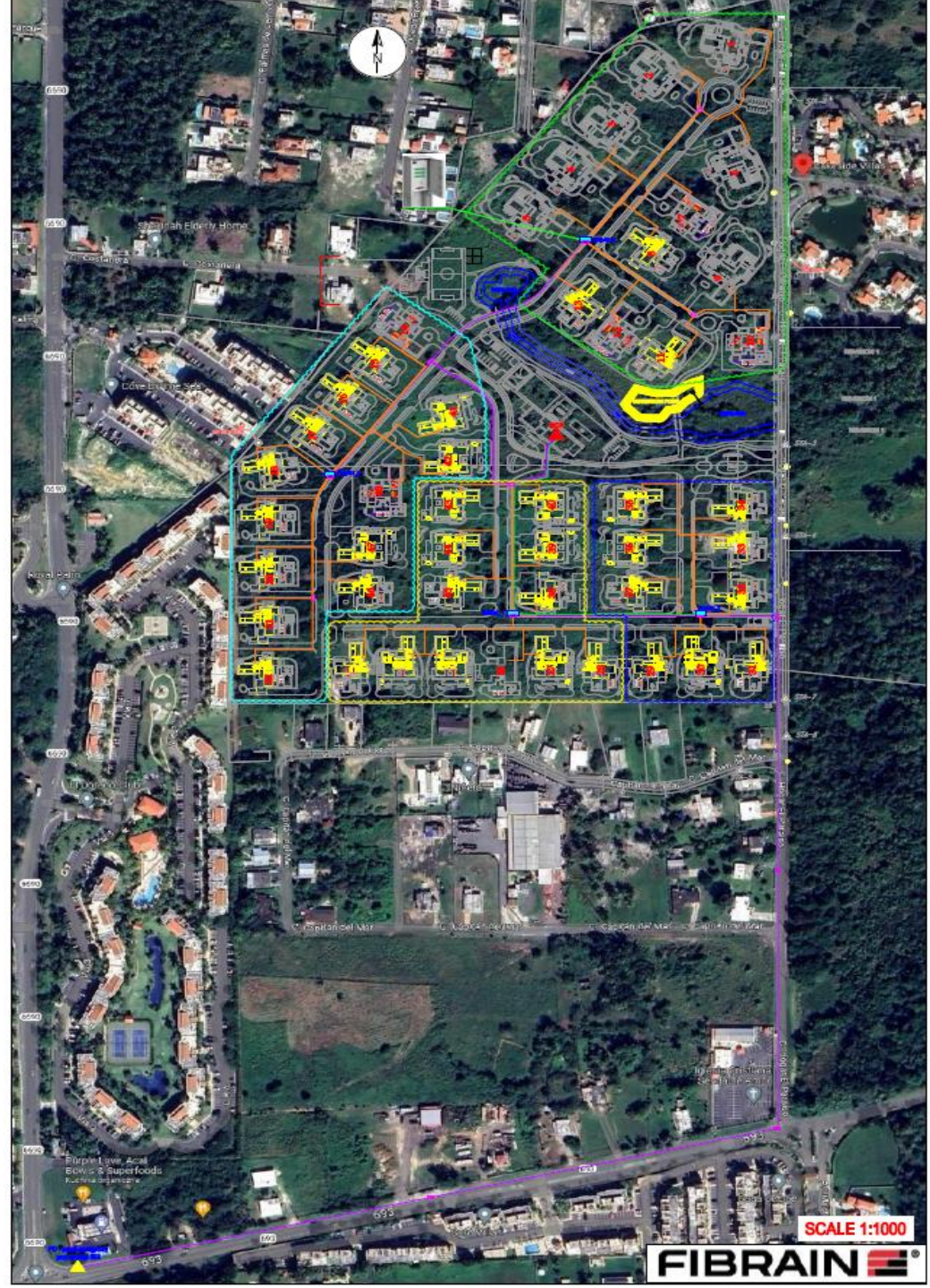
VARIOEDGE highly-qualified engineering staff implements design works based on the latest telecommunications technologies and industry standards, including: the concept of fiber optic networks and structured cabling, construction and executive documentation, network optimization services. Each project is carried out individually based on the client's needs and requirements.

IMPLEMENTATION DEPARTMENT

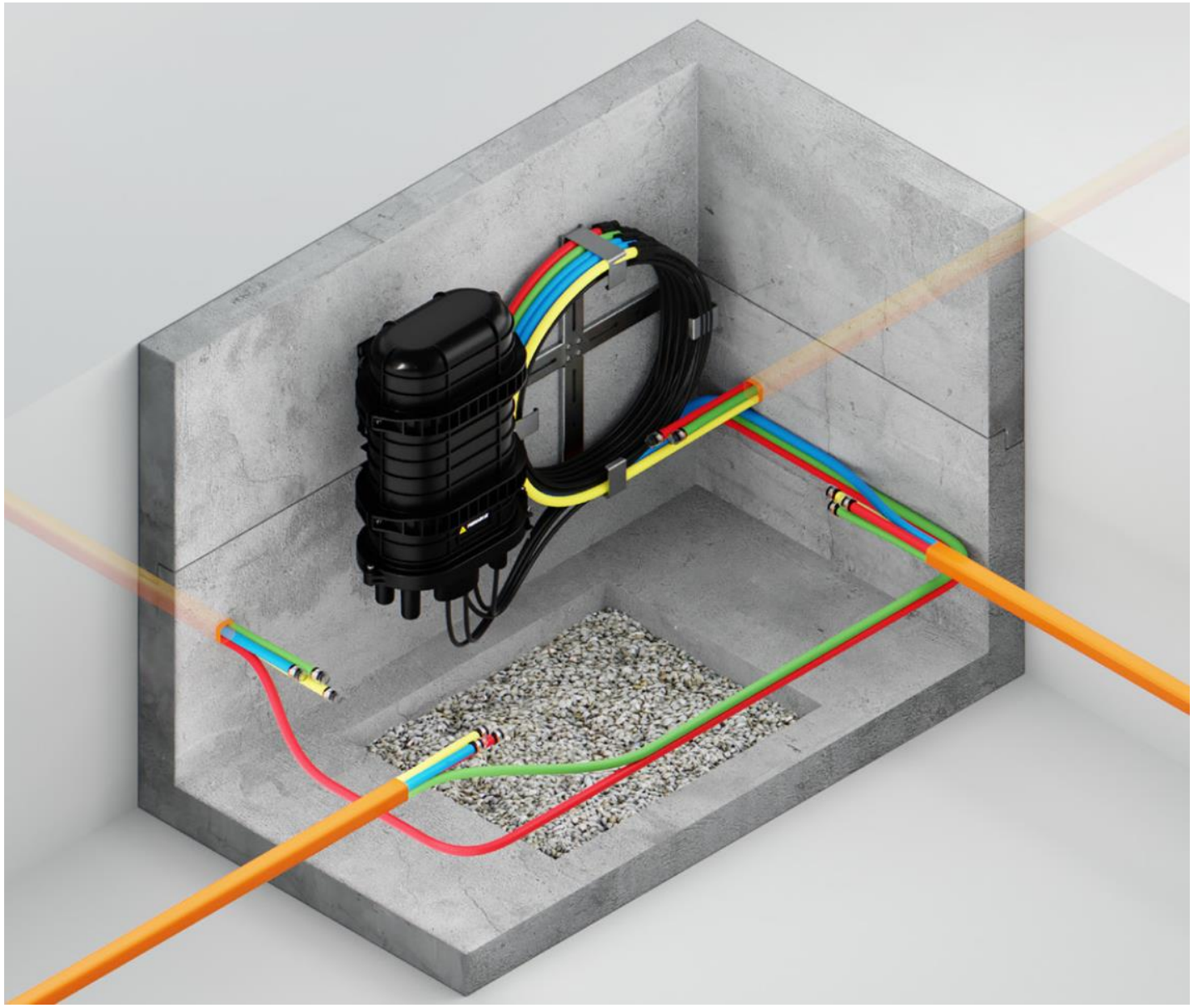
Years of experience in domestic and foreign projects and professional equipment enables us to provide a wide range of service.

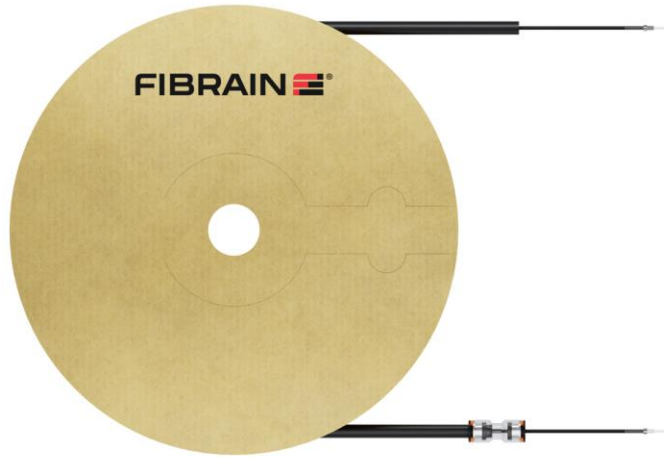
FIBER OPTIC MEASUREMENT & NETWORK OPTIMIZATION DEPARTMENT

Qualified engineering staff performs optical measurements and analyses of fiber optic networks that comply with all necessary standards and norms in this area.



MetroJet microduct system





Winncom Technologies
Premier Global Distribution

Action Items:

1. Schedule a consultation to strategize on positioning your company for a successful BEAD application in your state
2. Schedule a call to learn more about **Winncom BEAD Programs**

Contact Information

Winncom Bead Consultation: BEAD@Winncom.com & a.cernik@winncom.com

Winncom Portal Links

BEAD Portal**: www.winncomus.com/bead/**

Fiber Solutions Page: https://www.winncom.com/en/solutions/fiber

FIBRAIN Landing Page: https://www.winncom.com/en/manufacturer/fibrain