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TWD HỒ SƠ NĂNG LỰC

Technology World Distribution., JSC

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Giới Thiệu Chung

- Tên giao dịch: Technology World Distribution., JSC
- Tên Tiếng Việt: Công Ty Cổ Phần Đầu Tư và Phân Phối Thế Giới Công Nghệ TWD
- Tên Tiếng Anh: TWD Technology World Distribution and Investment Joint Stock Company
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Tầm nhìn

Tới năm 2028, Công ty TWD trở thành một trong những đơn vị phân phối Chuyên nghiệp và lớn mạnh hàng đầu trong lĩnh vực Cơ Điện (M&E) và Điện Nhẹ (ELV), đạt TOP 10 trên phạm vi cả nước và sau đó là khu vực Đông Nam Á trong 10 năm tiếp theo.

Sứ mệnh

Công ty hoạt động với sứ mệnh kết nối để cung cấp những giải pháp và sản phẩm chất lượng cao đến từ những thương hiệu hãng sản xuất hàng đầu thế giới tới thị trường.

Đóng góp vào sự thành công của các đối tác hãng sản xuất bằng cách kết nối để cung cấp những sản phẩm, giải pháp tới thị trường bao gồm các Chủ đầu tư, các đơn vị Tư vấn thiết kế, các đơn vị Tổng thầu/Nhà thầu Cơ Điện (M&E) và Điện Nhẹ (SI).

Đóng góp vào sự thành công của dự án cho các Chủ đầu tư, các đơn vị Tư vấn thiết kế, các đơn vị Tổng thầu/Nhà thầu Cơ Điện (M&E) và Điện Nhẹ (SI) bằng cách cung cấp những sản phẩm chất lượng cao và những giải pháp tối ưu, dịch vụ chuyên nghiệp nhằm đạt hiệu quả đầu tư cao nhất cho cả vòng đời của dự án (Total Cost of Ownership - TCO).

Mang tới sự thành công cho các cổ đông, các cấp lãnh đạo, quản lý cùng toàn thể các nhân viên trong công ty, đồng thời tích cực chung tay đóng góp vào sự phát triển chung của đất nước.

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Giá trị cốt lõi:

- **Thông điệp của công ty**: Successful Together.

Thông điệp của công ty thể hiện rõ nhất giá trị cốt lõi với triết lý kinh doanh là thành công cho tất cả luôn là tôn chỉ cho mọi hoạt động của công ty TWD.

- **Tiêu chí của công ty**: Chuyên nghiệp – Sáng tạo – Linh hoạt – Uy tín – Phát triển.

Chuyên nghiệp: TWD luôn nỗ lực không ngừng nhằm đạt được sự chuyên nghiệp trong mọi hoạt động của công ty, chúng tôi hiểu được rằng kinh doanh không chỉ là câu chuyện về lợi nhuận, đó còn là văn hóa, là sự thấu hiểu về nhu cầu và mong muốn của khách hàng, đưa chữ "Tâm" vào công việc, từ đó mang lại những dịch vụ giá trị tốt nhất tới các đối tác và khách hàng.

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Giá trị cốt lõi:

Sáng tạo: Sáng tạo là một trong những điều kiện tiên quyết để doanh nghiệp tồn tại và phát triển trong môi trường cạnh tranh khốc liệt hiện nay, bởi vậy công ty luôn không ngừng đẩy mạnh việc học tập, nâng cao những kiến thức chuyên môn và xu hướng phát triển để bắt kịp với sự biến động của thị trường cũng như tạo ra những lợi thế riêng, đưa doanh nghiệp trở thành một trong những nhà cung cấp hàng đầu được các đối tác, khách hàng tin tưởng.

Linh hoạt: Cùng với sáng tạo, linh hoạt là một trong những nhân tố cốt lõi để tạo nên sự thành công. Linh hoạt dựa trên và theo những tiêu chí, mục tiêu cung cấp dịch vụ giá trị tốt nhất tới đối tác, khách hàng mà không bị ràng buộc bởi những quy trình và nguyên tắc cứng nhắc.

Uy Tín: Công ty TWD luôn đặt chữ TÍN là yếu tố quan trọng nhất và đây là nền tảng cho sự tin tưởng, yếu tốt mấu chốt để cùng hợp tác và cùng thành công.

Phát triển: Phát triển bền vững là mục tiêu quan trọng mà TWD hướng tới. Sự phát triển không chỉ nằm ở khía cạnh lợi nhuận hay quy mô, mà trong đó còn bao hàm cả sự lớn mạnh về con người và văn hóa doanh nghiệp.

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Lĩnh Vực Hoạt Động

TWD hoạt động chuyên sâu trong lĩnh vực phân phối, cung cấp các giải pháp, sản phẩm công nghệ của các hãng sản xuất hàng đầu thế giới. Hiện nay TWD là nhà phân phối của các hãng Prysmian Group, Philips Lighting (Signify), Helukabel Group, Legrand Group và là đối tác Direct – Value Added Partner của hãng Eaton.

Prysmian Group là nhà sản xuất và thương hiệu cáp lớn nhất thế giới, có trụ sở tại Milan, Italy với trên 140 năm kinh nghiệm và có mặt tại 50 Quốc gia, có 25 Trung tâm nghiên cứu và phát triển (R&D Center) và 112 Nhà máy sản xuất trên khắp thế giới. Với thương hiệu cáp cấu trúc Draka UC - Giải pháp cáp vạn năng Draka. Bao gồm đầy đủ hạ tầng cáp và phụ kiện kết nối cho cáp Dữ liệu đồng và Dữ liệu quang. Giải pháp cáp tín hiệu điều khiển Multimedia Specials. Với thời gian bảo hành hệ thống lên đến 28 năm.

Nhóm sản phẩm cáp điện nhẹ, cáp tín hiệu điều khiển cho các hệ thống:

- Hệ thống mạng LAN, điện thoại TEL, Wifi, IPTV, Camera.
- Hệ thống âm thanh thông báo PA, BMS, Access-Control, HVAC, Car Parking, CA/MATV.
- Hệ thống Fire Alarm, PCCC.

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Prysmian Group với đầy đủ giải pháp hệ thống Cáp cho Solar Farm, Solar Rooftop. Hệ thống Cáp và Phụ kiện cho Wind Power bao gồm Onshore và Offshore. Hệ thống cáp và phụ kiện cho Oil & Gas.

1. Solar Cable: Portfolio đầy đủ các loại cáp cho Solar. Đạt các tiêu chuẩn quốc tế IEC 62930 và EN 50618.

2. Onshore Wind Farm: Medium & Low Voltage-Fiber Optic Cable, Accessories for AC Transition Point.

3. Offshore Wind Farm: Inter-array Cable System, High Voltage Grid Access, Specialties Cables.

4. Inside Wind Turbines: Medium & Low Voltage Cable, Control Cable, Customised Cable, Specialty Cable, Fiber Optic, Click-Fit® Accessories & Components.

5. Oil & Gas: HV, MV, LV, Control, VFD, Instrumentation, Fiber Optic, Components Cables.

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HELUKABEL® HELUKABEL là nhà sản xuất cáp, dây điện và phụ kiện có trụ sở tại Đức. Danh mục sản phẩm hơn 33.000 mặt hàng trong kho, cùng với các giải pháp cáp tùy chỉnh của chúng tôi, cho phép chúng tôi cung cấp các hệ thống kết nối hiện đại cho các ứng dụng công nghiệp, cơ sở hạ tầng và văn phòng. Kết hợp một loạt các sản phẩm với phạm vi hoạt động trên toàn cầu với 55 VPĐD bán hàng và sản xuất tại 36 quốc gia, khiến chúng tôi trở thành đối tác đáng tin cậy cho các khách hàng trên toàn thế giới. Với các nhóm giải pháp, sản phẩm thế mạnh cho các ngành công nghiệp như sau:

- Machine & Plant Engineering, Drive Technology.
- Steel Industry, Automative Industry, Automation Technology, Robotics.
- Food & Beverage.
- Oil, Gas & Chemical Industry.
- Energy Supply Manufacture.

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Lĩnh Vực Hoạt Động

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Philips thành lập từ năm 1891, có trụ sở tại Amsterdam, Hà Lan. Trong suốt hơn 125 năm qua, Philips không ngừng tạo ra những cuộc cách mạng chiếu sáng. Philips là hãng đi tiên phong thế giới về ánh sáng điện tử và LED, và đang dẫn đầu về chiếu sáng thông minh. Hệ thống Smart Hotel Room Control.

Nhóm giải pháp, sản phẩm của Philips đa dạng và ứng dụng trong các lĩnh vực như:

- Khách sạn, Resort, Tòa nhà văn phòng, Khu dân cư – Căn hộ, TT Thương mại.
- Nhà máy, Khu công nghiệp.
- Cầu – Đường phố, Sân bay.
- Công trình Văn hóa, khu Thể thao – Giải trí.

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Legrand được thành lập năm 1904 có trụ sở tại Limoges, nước Pháp. Legrand là chuyên gia toàn cầu trong các sản phẩm về hệ thống thiết bị điện và hạ tầng điện nhẹ, kỹ thuật số. Với sự hiện diện tại 90 quốc gia và đội ngũ nhân sự hơn 37.000 nhân viên, Legrand có một ưu thế hoàn chỉnh, phù hợp với thị trường thương mại, công nghiệp và dân cư. Hãng đã cung cấp giải pháp, sản phẩm trên toàn thế giới tại hơn 180 quốc gia. Các hệ thống thiết bị kiểm soát và giám sát việc lắp đặt, quản lý cáp, phân phối điện, phân phối hệ thống "Voice-Data-Image", Legrand cung cấp nhiều giải pháp cho quản lý chiếu sáng, sưởi ấm, năng lượng, mạng và truy cập trong các tòa nhà. Cung cấp giải pháp, sản phẩm rộng rãi, với hơn 215.000 sản phẩm trong danh mục, được chia thành 81 nhóm sản phẩm.

Nhóm giải pháp, sản phẩm:

- Wiring Devices (Công tắc ổ cắm)
- PractiboxS và RX³ MCBs & RCCBs

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EATON
Powering Business Worldwide

Là một Tập đoàn nổi tiếng của Mỹ được thành lập từ năm 1911 sở hữu hơn 10,000 bằng sáng chế các loại cùng 06 trung tâm R&D tại USA – Ireland – Czech – Shanghai và 95,000 nhân viên trên toàn cầu, Eaton luôn hướng đến việc cung cấp các sản phẩm có chất lượng cao và tính năng + giá thành phù hợp, đáp ứng nhu cầu sử dụng của nhiều đối tượng khách hàng và bắt kịp các xu hướng công nghệ trên thị trường. Với hệ thống nhà máy đặt tại USA – Finland – Morocco – Taiwan – Philippines - China cùng chuỗi phân phối ở 175 quốc gia, Eaton sở hữu các ưu thế về năng lực cung ứng và được tin tưởng bởi người dùng là hộ gia đình đến các cơ quan chính phủ và các Tập đoàn công nghệ lớn trên toàn thế giới. Nhóm sản phẩm:

- UPS 1 Pha và 3 Pha.
- Thanh nguồn ePDU/PDU và Rack cabinet.

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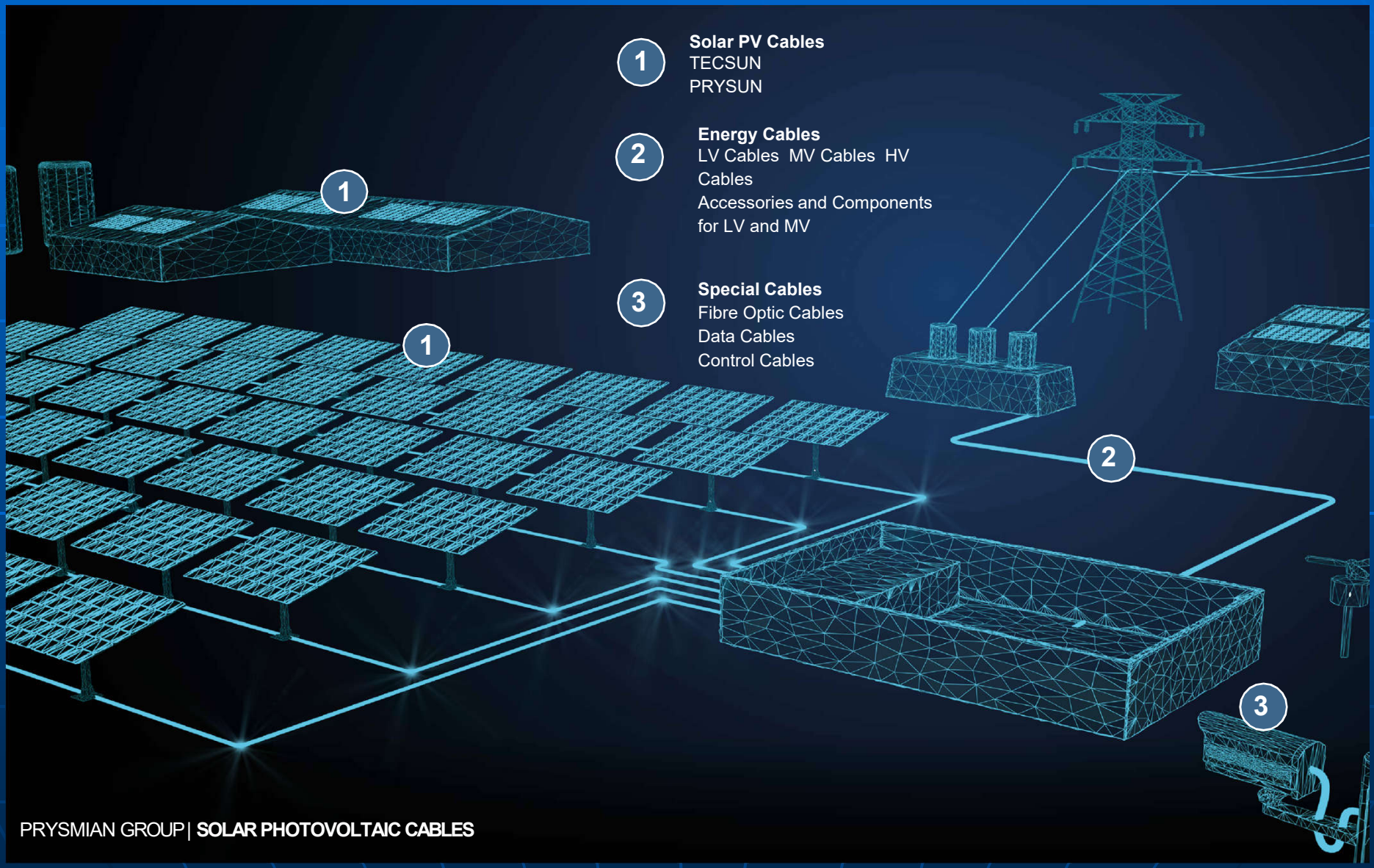
Prysmian – Giải pháp, sản phẩm hệ thống cáp Solar Power



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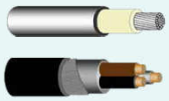
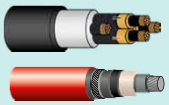
Prysmian Solar Product Mapping

Cables	Description	Description	Standards
PV Cables TECSUN PRYSUN		PV Cables designed for the interconnection of various elements in photovoltaic systems, including panel interconnection, between panels and string boxes or from string boxes to the inverter. They are suitable for applications indoor and/or outdoor, resistant to UV and harsh environments.	Main standards of PV cables globally, including IEC 62930, EN 50618 and UL 4703
LV Cables		LV cables up to 3 kV, sigle core or multi conductors, aluminium or copper conductors, with different insulation and outer sheath compounds, amoured options and additional protection for harsh conditions as required	IEC standards and most local standards
MV Cables		MV cables from 6 to 50 kV, sigle core or three cores, aluminium or copper conductors, with different insulation and outer sheath compounds, screened, amoured options and additional protection for harsh conditions as required	IEC standards and most local standards
Special Cables		Wide porfolio of fibre optic cables, data cable and control cables to cover different needs	IEC standards and most local standards

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Prysmian – Giải pháp, sản phẩm hệ thống cáp Wind Power

Prysmian Group

Wind Turbines and Farms

Special cables for on- and offshore wind applications
General catalogue

PRYSMIAN
Draka

Application Overview

	Nacelle	Rotor/ pitch system	Generator/ Loop	Rectifier/ Loop	Transfor- mator/ Loop	Tower (fixed installation)	Tower (flexible installation)	Service lift	Base	Grid connection	Offshore
TOWERFLEX™	●					●					
WINDFLEX™	●	●	●	●	●	●	●	●	●		
TECWIND™	●		●	●							
Cable Sets	●	●	●	●	●	●	●	●	●		
PROTODUR/ PROTOTHEN-X										●	
HV + EHV underground cables										●	
MV submarine cables											●
HVAC/HVDC cables											●
Pry-Cam Grids™	●	●	●	●	●	●	●			●	●
Feltoflex®-RC											●

Further cables for special applications are available on request.

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Prysmian – Giải pháp, sản phẩm hệ thống cáp Wind Power

What we offer

Our cables - used in wind turbine and tower operations - are hard at work across the renewables sector, supporting the work of turbine manufacturers, contractors and developers.

We provide a range of cables, accessories and services for all wind power generation applications - from the generator, to the grid („One-stop-shop").

Applying our many years of expertise and global capabilities, Prysmian offers one of the world's most proven and comprehensive product ranges for wind power generators:

Medium voltage cables
For voltage classes of power from 6 kV up to 55 kV - we offer single and four core Medium Voltage flexible cables. They are optomized for torsion twist in the tower down to -40°C.

Low voltage cables
For the connection from the generator to the transformer down the tower. Fully optimised for twisting at high and low temperatures in accordance to various standards.

Control cables
Copper and fibre optic data cables for use in fixed and flexible installations. Designed for data transmisson in low and high temperatures in accordance to various standards.

Customised cable set solutions
Prysmian Group is specialized in the design, manufacture and delivery of customized cable sets with various terminations. Including low and medium voltage cables, data cables as well as fibre optic cables.

Specialty cables
Different applications require different designs. For special application like EMC or hot oil we have specially designed cables.

Fibre optic
We have a comprehensive and specialized program of pre-fabricated cable kits, customized solutions and accessories, for within or between towers, and grid connection

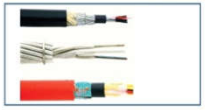
Click-Fit® Accessoires & Components
All products within the Click-Fit® range (including outdoor terminations, joints, Y (branch) joints and GIS/Transformer connectors) are based on the Click-Fit® Plug&Power" concept for high voltage extruded cable accessories that enables optimum ease and speed of assembly, maximum reliability and maintenance-free operation, by ways of factory prepared (identical) cable ends. To minimize offshore installation times, cable ends can be prepared onshore and then installed and clamped inside the offshore turbine.

Our Products and Brands

TOWERFLEX™
Comprehensive low voltage cabling solutions with excellent handling and bending properties for fixed installation in wind turbines.
(For detailed information see page 8/9)

WINDFLEX™ / TECWIND™
Full range of low voltage and medium voltage cables, with high resistance to torsion, oil, ozone and flame. For flexible installation in wind turbines.
(For detailed information see page 10)

FIBERCONNECT™
Comprehensive and integrated fibre optical cabling solution for industrial Ethernet application in wind turbine towers.



CABLE SETS
Wide range of low voltage and medium voltage pre-assembled and customized cable sets, for wind turbine and nacelle application.

PROTODUR / PROTOTHEN-X
Low voltage PROTODUR cables and medium voltage PROTOTHEN-X cables for power distribution.

POWER TRANSMISSION
High voltage and extra high voltage underground cable systems for power transmission.

ACCESSORIES
Network components and accessories.

MV SUBMARINE CABLES
Medium voltage submarine cables for inter-array and platform connection.

HVAC/HVDC EXPORT CABLES
Submarine export cables with extruded insulation. HVAC up to 220 kV, HVDC up to 320 kV.

SERVICE
Supporting the wind power industry through all realisations' phases from production and put in service of wind turbines to maintenance and monitoring.

PRY-CAM™ GRIDS
Integrated and autonomous monitoring systems for partial discharge and temperature management of medium voltage components in wind turbines.
(For detailed information see page 11)

FELTOFLEX®-RC
Cables for use as flexible connection between offshore platforms as well as in switch-gears and transformers where very small bending radius and/or very low temperature is required.
(For detailed information see page 14)

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Prysmian – Giải pháp, sản phẩm hệ thống cáp Oil & Gas

Oil & Gas - Cable Solutions

Pipelines & LNG - Onshore

High Voltage Cables

Power cables with extruded insulation for voltage classes above 30 kV up to 150 kV

High Voltage cables are designed on a fit-for-purpose and fully customised project-by-project basis. Hydrocarbon resistant, termites/rodent resistant, Arctic Grade, resistance to gas/chemical attacks: all designs available on request.

APPLICATION

High Voltage cables are used to connect power generation units with large onshore plants (e.g. petrochemical plants, refineries, LNG plants) in harsh environments with strict safety protocols and requiring outstanding reliability performance. Prysmian has been at the forefront of high voltage cable technology for nearly a hundred years. We have experience in supplying and installing high voltage cables systems throughout the world and support customers from system design, through manufacture to installation, commissioning and testing.
Our extended after sales support is second to none, with 24/7 emergency maintenance, condition based assessments, on site fault location diagnostics, materials qualification, accessories development and approval through our HV laboratory.

STANDARDS & APPROVALS

IEC 60840 Test Methods
CIGRE Technical Recommendations
IEC 60332-1-2 Flame Retardance
IEC-60332-3-22 Fire Retardance

on request:

IEC-60754-1 /...-2 Halogen-free properties
IEC-61034-1 / 2 Smoke emission properties

on request:

CSA 22.2 n.38-95 or IEC 60811
Cold bend/impact test at low temperature

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Aluminium or Copper

2 **INSULATION**
XLPE or EPR

3 **SCREEN**
Copper wires + Aluminium foil or welded Aluminium sheath

4 **METALLIC SHEATH**
(where applicable)
Lead

5 **ARMOURING**
(only armoured versions)
Aluminium wires or Stainless steel wires or Polymeric

6 **OUTER SHEATH**
PE or LSOH or PVC (only with Lead sheath)

P/L HV 09/2017

Prysmian Group

Oil & Gas - Cable Solutions

Refineries & Petrochemical - Onshore

High Voltage Cables

Power cables with extruded insulation for voltage classes above 30 kV up to 150 kV

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CIGRE Technical Recommendations
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IEC-61034-1 / 2 Smoke emission properties

on request:

CSA 22.2 n.38-95 or IEC 60811
Cold bend/impact test at low temperature

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Aluminium or Copper

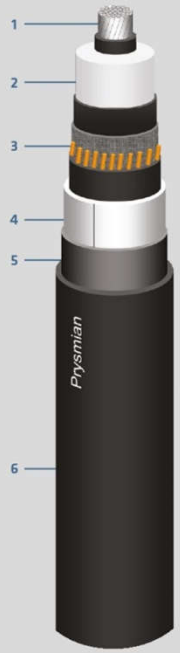
2 **INSULATION**
XLPE or EPR

3 **SCREEN**
Copper wires + Aluminium foil or welded Aluminium sheath

4 **METALLIC SHEATH**
(where applicable)
Lead

5 **ARMOURING**
(only armoured versions)
Aluminium wires or Stainless steel wires or Polymeric

6 **OUTER SHEATH**
PE or LSOH or PVC (only with Lead sheath)



R/P HV 09/2017

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Pipelines & LNG - Onshore

Medium Voltage Cables

IEC 60502-2

Cu/XLPE/CWS or **CTS/PVC** or **LSZH**
Cu/XLPE/CWS or **CTS/PVC** or **LSZH/AWA** or **SWA/PVC** or **LSZH**
3,6/6 kV .... 18/30 kV

Distribution cables from 3,6/6 up to 18/30 kV. Flame retardant, low smoke and halogen free (only LSZH version). Armoured/unarmoured.
Design option with insect repellent/rodent protection; Arctic Grade design option;
Fire Resistant version: all available on demand.

APPLICATION

Medium Voltage cables are used for power distribution applications or to connect equipment that requires large amounts of power in refineries, pipelines and other midstream and downstream facilities.

STANDARDS & APPROVALS

IEC 60502-2 Design guidelines
IEC 60332-1-2 Flame retardance
IEC-60332-3-22 or 24 Fire retardance

on request

IEC-60754-1 /...-2 Halogen free properties
IEC-61034-1 / 2 Smoke emission properties

on request

CSA 22.2 n. 38/95 or IEC 60811
Cold bend/impact test at low temperature

on request

IEC 60331-21 Fire Resistance

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Cu
Annealed copper conductor according to IEC 60228 cl. 2 from 16 to 630 mm², single core or three cores

2 **CONDUCTOR SCREEN**
Semiconducting layer

3 **INSULATION**
XLPE
HEPR or EPR on demand

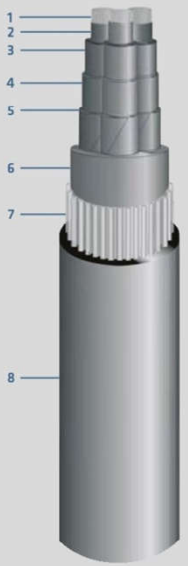
4 **INSULATION SCREEN**
Semiconducting layer

5 **SCREEN**
CWS or CTS
Copper wires or copper tapes

6 **BEDDING/INNER COVERING**
(only armoured versions)
PVC or LSZH

7 **ARMOURING**
(only armoured versions)
SWA or AWA
Steel Wire Armour/Aluminium Wire Armour for single core (Double Steel Tape available on demand, aluminium for single core)
AIR-BAG® mechanical protection option available on demand

8 **OUTER SHEATH**
PVC or LSZH
Hydrocarbon resistant option available on demand



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Oil & Gas - Cable Solutions

Pipelines & LNG - Onshore

Medium Voltage Cables

IEC 60502-2

PERFORMANCES/RATINGS

FIRE BEHAVIOUR	CHEMICAL RESISTANCE	IMPACTS	SMOKE DENSITY, CORROSIVITY AND TOXICITY
IEC 60332-1-2 IEC 60332-3-22 or 24 IEC 60331-21 (only FR version)	STANDARD (PVC) GOOD (LSZH)	GOOD	low LOW EMISSION (only LSZH version)

MIN. INSTALLATION TEMPERATURE	MAX OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE
-5 °C (PVC) -15 °C (LSZH) (-40°C for Arctic Grade)	+90 °C	250 °C +250 °C

QUALITY & TESTING

Prysmian has a built-in multi-step quality assurance program, covering the production process from cable design and raw material purchases to final inspection and testing documentation.

The ISO 9001 quality system of Prysmian Group (together with ISO 14001 and OHSAS 18001) has been assessed, approved and is currently audited by SGS.

This product information sheet is provided for reference only.
Please consult the factory or your representative to confirm all engineering information or refer to the related catalogues available in the local countries website.

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Oil & Gas - Cable Solutions

Pipelines & LNG - Onshore

Low Voltage & Control Cables

IEC 60502-1

Cu/XLPE/PVC or LSZH 0,6/1 kV
Cu/XLPE/PVC or LSZH/SWA/PVC or LSZH 0,6/1 kV

Power cables 0,6/1 kV. Flame retardant, low smoke, halogen free (only LSZH version). Armoured/unarmoured. Design option with insect repellent/rodent protection; Arctic Grade design option: all available on demand.

APPLICATION

Low Voltage & Control cables are used for fixed installations of power supply and control applications. Prysmian offers a wide range of LV & Control cables with diverse design options depending on the reference standards and customer requirements.

STANDARDS & APPROVALS

IEC 60502-1 Design guidelines
IEC 60332-1-2 Flame retardance
IEC-60332-3-22 or 24 Fire retardance

on request

IEC-60754-1 /...-2 Halogen free properties
IEC-61034-1 / 2 Smoke emission properties

on request

CSA 22.2 n. 38/95 or IEC 60811
Cold bend/impact test at low temperature

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Cu
Annealed copper conductor according to IEC 60228 cl. 2 (or cl. 5 on request) from 1.5 to 630 mm², single core, three cores, multicore

2 **INSULATION**
XLPE

3 **BEDDING/INNER COVERING**
(only armoured versions)
PVC or LSZH

4 **ARMOURING**
(only armoured versions)
SWA
Steel Wire Armour (Double Steel Tape available on demand, aluminium for single core)

5 **OUTER SHEATH**
PVC or LSZH
Hydrocarbon resistant option available on demand

P/L LV6C IEC - 09/2017

Prysmian Group

Oil & Gas - Cable Solutions

Refineries & Petrochemical - Onshore

Low Voltage & Control Cables

IEC 60502-1

Cu/XLPE/PVC or LSZH/LS/PVC or LSZH/SWA/PVC or LSZH 0,6/1 kV

Power cables 0,6/1 kV with Chemical Barrier. Flame retardant, low smoke and halogen free (only LSZH version). Design option with insect repellent/rodent protection; Arctic Grade design option; Fire Resistant version: all available on demand.

APPLICATION

Low Voltage & Control cables used for underground fixed installations of power supply and control applications. Prysmian offers a wide range of LV & Control cables with diverse design options depending on the reference standards and customer requirements.

STANDARDS & APPROVALS

IEC 60502-1 Design guidelines
IEC 60332-1-2 Flame retardance
IEC-60332-3-22 or 24 Fire retardance
IEC-60754-1 /...-2 Halogen free properties
IEC-61034-1 / 2 Smoke emission properties

on request

IEC-60754-1 /...-2 Halogen free properties
IEC-61034-1 / 2 Smoke emission properties

on request

CSA 22.2 n. 38/95 or IEC 60811
Cold bend/impact test at low temperature

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Cu
Annealed copper conductor according to IEC 60228 cl. 2 (or cl. 5 on request) from 1.5 to 630 mm², single core, three cores, multicore

2 **INSULATION**
XLPE

3 **BEDDING/INNER COVERING**
PVC or LSZH

4 **CHEMICAL BARRIER**
LS
Lead alloy E
DRYLAM® (multilayer sheath) instead of Lead sheath available on demand

5 **SEPARATION SHEATH**
PVC or LSZH

6 **ARMOURING**
SWA
Steel Wire Armour (Double Steel Tape - DSTA available on demand, aluminium for single core)

7 **OUTER SHEATH**
PVC or LSZH
Hydrocarbon resistant option available on demand

R/P LV6C IEC Chem Barr - 09/2017

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Oil & Gas - Cable Solutions

Pipelines & LNG - Onshore

Instrumentation Cables

EN 50288-7 / IEC 60331

Cu/MGT/XLPE/IS or OS or IS+OS/LSZH/LS/LSZH/SWA/LSZH
300 V and 500 V

Instrumentation cables with Chemical Barrier. Multi-core (pairs, triads - twisted). Screened. Armoured. Flame retardant. Fire resistant. Design option with insect repellent/rodent protection; Arctic Grade design option: all available on demand.

APPLICATION

Instrumentation cables are used to transmit digital or analogue signals for measurement or process control applications in fixed installation on onshore platforms. Prysmian offers a wide range of Instrumentation cables with diverse design options depending on the reference standards and customer requirements. On demand Prysmian can offer also intrumentation thermocouples cables.

STANDARDS & APPROVALS

EN 50288-7 Design guidelines
EN 50290-2 Insulation and sheathing materials
IEC 60332-1-2 Flame retardant
IEC 60332-3-24 or 22 Fire retardant
IEC 60331-21/60331 1/2 plus EN 50200 annex E/ BS 6387 CWZ Fire Resistance
IEC-60754-1 /...-2 Halogen free properties
IEC-61034-1 / 2 Smoke emission properties

on request

CSA 22.2 n. 38/95 or IEC 60811

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Cu
Annealed copper wires according to cl. 2.
Solid cl. 1 conductors (U) or Flexible cl. 5 conductors (F) available on demand.
Tinned copper conductors available on demand

2 **FIRE BARRIER**
MGT
Mica/glass tape

3 **INSULATION**
XLPE
HFFR available on demand

4 **SCREEN**
IS/OS/IS+OS
Individual (IS)/Overall (OS)/
Individual+Overall (IS+OS)
Aluminium/polyester tape in electrical contact with tinned annealed drain wire

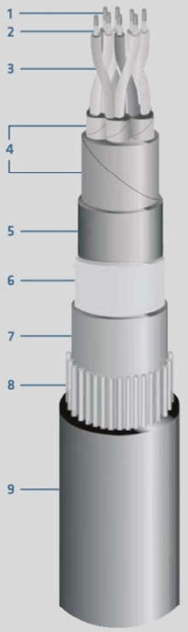
5 **INNER COVERING**
LSZH

6 **CHEMICAL BARRIER**
LS
Lead alloy E
DRYLAM® (multilayer sheath) instead of Lead sheath available on demand

7 **SEPARATION SHEATH**
LSZH

8 **ARMOURING**
SWA
Galvanized steel wire (SWA)
Galvanized steel braid (GSWB) or double steel tape (DSTA) available on demand

9 **OUTER SHEATH**
PVC or LSZH
Hydrocarbon resistant option available on demand



P/L Instr Chem Barr FR EN - 09/2017

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Prysmian Group

Oil & Gas - Cable Solutions

Refineries & Petrochemical - Onshore

Instrumentation Cables

EN 50288-7

Cu/XLPE/IS or OS or IS+OS/PVC or LSZH
Cu/XLPE/IS or OS or IS+OS/PVC or LSZH/SWA/PVC or LSZH
300 V and 500 V

Instrumentation cables. Multi-core (pairs, triads - twisted). Screened. Armoured/ Unarmoured. Flame retardant. Design option with insect repellent/rodent protection; Arctic Grade design option: all available on demand.

APPLICATION

Instrumentation cables are used to transmit digital or analogue signals for measurement or process control applications in fixed installation on onshore platforms. Prysmian offers a wide range of instrumentation cables with diverse design options depending on the reference standards and customer requirements. On demand Prysmian can offer also intrumentation thermocouples cables

STANDARDS & APPROVALS

EN 50288-7 Design guidelines
EN 50290-2 Series Insulation and sheathing materials
IEC 60332-1-2 Flame retardant
IEC 60332-3-24 or 22 Fire retardant

on request

IEC-60754-1 /...-2 Halogen free properties
IEC-61034-1 / 2 Smoke emission properties

on request

CSA 22.2 n. 38/95 or IEC 60811

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Cu
Annealed copper wires according to cl. 2
Solid cl. 1 conductors (U) or Flexible cl. 5 conductors (F) available on demand
Tinned copper conductors (available on demand) from 0,5 to 2,5 mm² up to 50 pairs, up to 24 triples

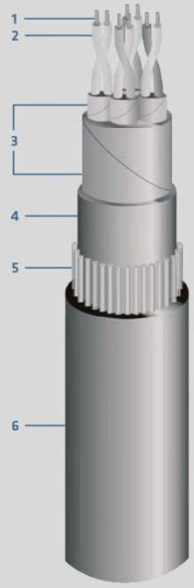
2 **INSULATION**
XLPE
PE/PVC/HFFR available on demand

3 **SCREEN**
IS/OS/IS+OS
Individual (IS)/Overall (OS)/
Individual+Overall (IS+OS)
Aluminium/polyester tape in electrical contact with tinned annealed drain wire

4 **INNER COVERING**
(only armoured versions)
PVC or LSZH

5 **ARMOURING**
(only armoured versions)
SWA
Galvanized steel wire (SWA)
Galvanized steel braid (GSWB) or double steel tape (DSTA) available on demand

6 **OUTER SHEATH**
PVC or LSZH
Hydrocarbon resistant option available on demand



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Oil & Gas - Cable Solutions

Exploration & Production - Offshore/Onshore

Instrumentation Cables

IEEE/IEC

BOSTRIG™ TYPE P SIGNAL CABLE 600 V or 0,6/1 KV

Multi core (pairs/triads) unarmoured/armoured and sheathed, individual and overall shielded Type P signal cable 600 V or 0.6/1 kV, 20/18/16/14 AWG.
Mud Resistant design option (Type P-MR) available on demand.

APPLICATION

Bostrig™ Type P Marine and Offshore Cable is primarily designed for power, control, signal, and instrumentation applications for offshore, land drilling rigs, marine vessels, and offshore production facilities. Armored and sheathed cables are suitable for use in Class I Division 1 and Zone 1 hazardous locations offshore. Unarmored cables are suitable for use in Class I, Division 2 hazardous locations offshore.

STANDARDS & APPROVALS

IEEE 1580 and IEEE 45 Marine Shipboard Cables
UL 1309 Marine Shipboard Cable Type XP110
CSA 22.2 No. 245 Marine Shipboard Cable Type XP110
CSA 22.2 No. 230 as Type TC (# 18 AWG unarmoured)
CSA 22.2 No. 239 as Type CIC (unarmoured)
UL 1277 Type TC-ER for exposed runs (unarmoured)
ASTM B 33 Conductor Materials
CSA 22.2 Cold bend/cold impact (-40 °C / -35 °C)
IEEE 1202 and IEC 60332-3-22 Flame propagation

Det Norske Veritas (DNV)

American Bureau of Shipping (ABS)
Transport Canada Approved AMS400-20-2
Transport Canada 8700-20-2

Lloyd's Register of Shipping (LRS)
United States Coast Guard-46CFR

ETL listed

CSA listed

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
Soft annealed tinned copper; a polyester tape separator is used over the conductor

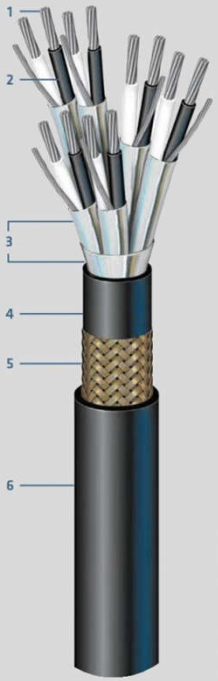
2 **INSULATION**
Bostrig Type P chemically cross-linked polyolefin (XLPO)

3 **SHIELD**
An aluminum/polyester tape with drain wire, 100% coverage, is applied over each twisted pair and the cabled core; the single pair construction has only the overall shield

4 **JACKET**
Flame-retardant Arctic Neoprene (complying with Type N Neoprene as required in IEEE 1580)

5 **ARMOUR**
(optional)
Braided bronze

6 **SHEATH**
(only armoured versions)
Flame-retardant Arctic Neoprene applied over the armor (complying with Type N Neoprene as required in IEEE 1580)
Special ester-based mud resistant jacket is available on request



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Oil & Gas - Cable Solutions

Exploration & Production - Offshore/Onshore

Instrumentation Cables

IEEE/IEC

PERFORMANCES / RATINGS

FIRE BEHAVIOUR	CHEMICAL RESISTANCE	IMPACTS	SMOKE DENSITY, CORROSIVITY AND TOXICITY
IEEE 1202 IEC 60332-3-22	VERY GOOD EXCELLENT (MUD RES)	GOOD	low LOW EMISSION (MUD RES)

MIN. PERMISSIBLE AMBIENT TEMPERATURE DURING LAYING	MAX OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	UV RESISTANCE
-40 °C (-20 °C MUD RES)	+100 °C	250 °C +250 °C	GOOD

QUALITY & TESTING

Prysmian has a built-in multi-step quality assurance program, covering the production process from cable design and raw material purchases to final inspection and testing documentation.

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Oil & Gas - Cable Solutions

Exploration & Production - Offshore

Fiber Optic Cables

Armoured and sheathed S670T FOC

S670T Armored and Sheathed Marine Fiber Optic Cables

Tight buffer construction.
2 to 48 fibers / single-mode or mulitimode / LSZH / Armored and sheathed.

APPLICATION

The S670T series of Marine Shipboard armored fiber optic cables are designed especially for the harsh environments of commercial marine vessels, offshore oil platforms, drilling rigs, and other similar applications.
S670T low smoke/zero halogen, flame retardant cables offer versatility and ease of installation in a construction suited for marine applications. They are compliant with the latest IEC requirements
S670T cables meet the requirements of IEC 60793-1 and IEC 60792-2 specifications, are encapsulated in all dielectric, tight buffered construction, individually reinforced with aramid yarns and jacketed (breakout style). The breakout components are cabled around a central member providing additional tensile strength to the entire construction. The thermoplastic low smoke/ zero halogen double jacketing system under and over the marine grade bronze braided armor offers excellent resistance to chemicals, fluids, fungus, and abrasion.

STANDARDS & APPROVALS

IEC/EN 60794 Optical Fibre Cables (test procedures)
IEC 60794-1-1 Optical Fibre Cables (test procedures)
IEC 60794-1-2 Optical Fibre Cables (test procedures)
IEC 60794-2 Optical Fibre Cables (test procedures)
IEEE 45 and IEEE 1580 Marine Shipboard Cables
IEC 60332-1 Flame Retardance
IEC 60332-3-22 or 24 and IEEE 1202 Fire retardance
IEC 60754-1 & 60754-2 - Halogen free properties
IEC 61034-1 & 61034-2 Smoke emission properties
NES 713 Toxicity Requirements
IEEE 802.3z (Gigabit Ethernet) Performance requirements

Det Norske Veritas (DNV)
American Bureau of Shipping (ABS)
Lloyd's Register of Shipping (LRS)

DESIGN & CONSTRUCTION

1 **CENTRAL STRENGTH MEMBER**
Dielectric material (epoxy fiberglass rod)

2 **FIBER**
Multimode or singlemode fibers with an easily strippable 900µm tight buffering colored per TIA/EIA 598

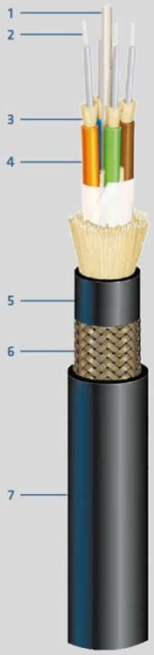
3 **SUBUNIT STRENGTH MEMBER**
Aramid yarn

4 **SUBUNIT JACKET**
2.0 mm ChromaTek-L™ Halex
low smoke zero halogen polyolefin

5 **JACKET**
ChromaTek-L™ Halex
low smoke zero halogen polyolefin

6 **ARMOR**
Braided bronze in accordance with IEEE 1580 (2010)

7 **SHEATH**
ChromaTek-L™ Halex
low smoke zero halogen polyolefin



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Prysmian Group

Oil & Gas - Cable Solutions

Exploration & Production - Offshore

Fiber Optic Cables

S611T Tight Buffer construction

S611T Marine Fiber Optic Cables

Tight buffer construction - 2 to 48 fibers / single-mode or mulitimode / LSZH.

APPLICATION

The S611T series of Marine Shipboard unarmored fiber optic cables are designed especially for the harsh environments of commercial marine vessels, offshore oil platforms, rilling rigs, and other similar applications. S611T low smoke/ zero halogen, flame retardant cables offer versatility and ease of installation in a construction suited for marine applications.
They are compliant with the latest IEC requirements. S611T cables meet the requirements of IEC 60793-1 and IEC 60792-2 specifications, are encapsulated in all dielectric, tight buffered construction, individually reinforced with aramid yarns and jacketed (breakout style). The breakout components are cabled around a central member providing additional tensile strength to the entire construction. The thermoplastic low smoke/ zero halogen jacketing system offers excellent resistance to chemicals, fluids, fungus, and abrasion.

STANDARDS & APPROVALS

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IEC 60794-2 Optical Fibre Cables (test procedures)
IEEE 45 and IEEE 1580 Marine Shipboard Cables
IEC 60332-1 Flame Retardance
IEC 60332-3-22 or 24 and IEEE 1202 Fire retardance
IEC 60754-1 & 60754-2 - Halogen free properties
IEC 61034-1 & 61034-2 Smoke emission properties
NES 713 Toxicity Requirements
IEEE 802.3z (Gigabit Ethernet) Performance requirements

Det Norske Veritas (DNV)
American Bureau of Shipping (ABS)
Lloyd's Register of Shipping (LRS)

DESIGN & CONSTRUCTION

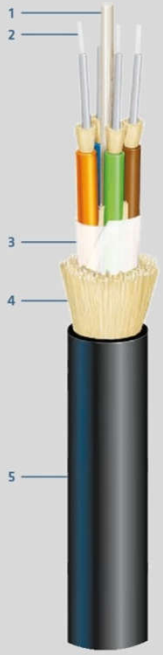
1 **CENTRAL STRENGTH MEMBER**
Dielectric material (epoxy fiberglass rod)

2 **FIBER**
Multimode or singlemode fibers with an easily strippable 900µm tight buffering colored per TIA/EIA 598

3 **SUBUNIT STRENGTH MEMBER**
Aramid yarn

4 **SUBUNIT JACKET**
2.0 mm ChromaTek-L™ Halex
low smoke zero halogen polyolefin

5 **SHEATH**
ChromaTek-L™ Halex
low smoke zero halogen polyolefin



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Prysmian – Giải pháp, sản phẩm hệ thống cáp Oil & Gas

Oil & Gas - Cable Solutions

Exploration & Production - Offshore

VFD Cables

NEK 606 / IEC 60092-353

F-RFOU 0,6/1 (1,8/3) kV VFD (EMC)

Low Voltage Special cables for Variable Frequency Drives application.
Fire retardant, low smoke, halogen free. Armoured.
Arctic Grade design option available on demand.

APPLICATION

Special design for Variable Frequency Drives.
VFD cables are used to control the frequency of the electrical power supplied to AC motors. Our VFD cables are designed to provide complete EMI screening and resistance to high voltage spikes to extend the operating life of the cable or motor. Prysmian offers a wide range of VFD cables with diverse design options depending on the reference standards and customer requirements.

STANDARDS & APPROVALS

IEC 60092-350 Design guidelines
IEC 60092-352 Choice and installation of electric cables
IEC-60092-353 Design guidelines
IEC 60092-360 Insulating and sheathing materials
IEC 60332-1-2 Flame retardance
IEC-60332-3-22 Fire retardance
IEC-60754-1 Halogen free properties
IEC-61034-2 Smoke emission properties
NEK 606 Oil and MUD resistance

on request

CSA 22.2 Cold bend/impact test at -40 °C /-35 °C

Det Norske Veritas-Germanischer Lloyd (DNV-GL)
American Bureau of Shippings (ABS)
Lloyds Register of Shipping (LRS)
Bureau Veritas (BV)
Russiam Maritime Register of Shipping (RMRS)
RINa (Registro Italiano Navale)

DESIGN & CONSTRUCTION

1 **CONDUCTOR**
F
Tinned annealed copper conductor according to IEC 60228 cl.5 (cl.2 on request)

2 **INSULATION**
R
HEPR according to IEC 60092-360

3 **BEDDING/INNER COVERING**
F
Flame retardant and halogen free thermoset compound

4 **ARMOURING / EMC SCREEN**
O
Cu/PETP tape + tinned copper wire braid (shield coverage 100 %)

5 **OUTER SHEATH**
U
Flame retardant, halogen free thermoset compound, SHF2 (IEC 60092-360)
or **U + MUD**
Flame retardant, halogen free and mud resistant thermoset compound, SHF2 (NEK 606)

Prysmian Group

Oil & Gas - Cable Solutions

Exploration & Production - Offshore

VFD Cables

NEK 606 / IEC 60092-353

PERFORMANCES/RATINGS

FIRE BEHAVIOUR	CHEMICAL RESISTANCE	IMPACTS	SMOKE DENSITY, CORROSIVITY AND TOXICITY
IEC 60332-1-2 IEC 60332-3-22	VERY GOOD EXCELLENT (MUD RES)	GOOD	low LOW EMISSION

MIN. PERMISSIBLE AMBIENT TEMPERATURE DURING LAYING	MAX OPERATING TEMPERATURE	SHORT CIRCUIT TEMPERATURE	UV RESISTANCE
-20 °C (-40°C for Arctic Grade)	+90 °C	250 °C +250 °C	GOOD

QUALITY & TESTING

Prysmian has a built-in multi-step quality assurance program, covering the production process from cable design and raw material purchases to final inspection and testing documentation.

The ISO 9001 quality system of Prysmian Group (together with ISO 14001 and OHSAS 18001) has been assessed, approved and is currently audited by SGS.

This product information sheet is provided for reference only.
Please consult the factory or your representative to confirm all engineering information or refer to the related catalogues available in the local countries website.

Prysmian Group

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Prysmian Draka – Giải pháp, sản phẩm

Generally defined as the data communication business providing cable solutions for all kind of communications needs in premises, enterprises, industry and transport infrastructures.

Datacomm

Multimedia Special

Mobile Network

TWD

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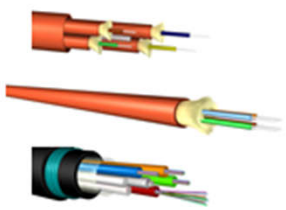
Prysmian Draka – Giải pháp, sản phẩm

Complete range of communications cables solutions

1.Fibre Data



- Fibre optical data cables mainly utilizing multimode fibres with focus on OM3/OM4/BB.
- Usually LSZH for indoor applications, compact high density design for minimal space usage
- SM & OM1 are considered standard

2.UC Connect

- Connectivity solutions for both copper and fibre to complete a structured cabling channel link
- Higher technology and premium designs are focus on Cat 6 & Cat 6a
- SM & Cat 5e connectivity are considered standard range

3.MMSpecials

- Premium range focus on ICS for SCADA & DCS. Ie Bus cables, PAGA, Industrial Ethernet
- Standard range focus on CCTV usages ie Coaxial, and BMS ie 2464 /485 modbus signals
- Added value for customization, ie SWB ./ SWA / LSZHFR

4.Copper Data

- Twisted pairs Category cables from 5e to 8 for data transmission in Ethernet.
- Cat 5e to Cat 6 is standard range
- Cat 6a and above is premium range with stronger focus on shielded cables.
- Can be value added with SWB.

5.Mobile Network

- Coaxial Radio Frequency antennas for mobile networks, RF/RFA types
- Connectivity (feeder & jumper cables) between base station and antennas

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Prysmian Draka – Giải pháp, sản phẩm

DATA CENTRE CABLING SOLUTIONS

Modules Connectivity

- Fiber & Copper version available
- MTP® / MPO for fiber modules
- 12 cores high density fibers modules
- Copper cassette up to 6 x 6a shielded
- Low loss fibers or standard OM3 / 4

Compact Cat 7 Multi pairs

- High density cabling utilizing high pairs laying technology, up to 24 pairs
- S/FTP version, compact / loomed
- 40% less weight, 50% less cabling space, increasing 20% higher air cooling

Smart Management

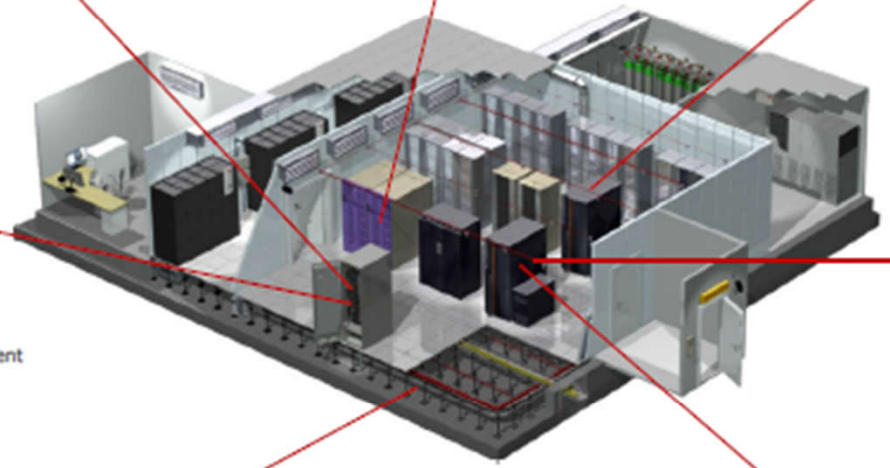
- UCSMART infrastructure management
- Real time IP traffic and cabling inputs monitoring.
- Alert tool for mis-patching / faulty connection

Data Centre Cabinet

- 42HU IDC for high density cross-connect
- Designed for both fiber and copper cabling
- Power supply unit compatible
- Enhanced card access / key management

Fiber Optics Panels

- 1U, 2U, 4U patch panels
- Lightweight, highly durable
- Fixed or sliding body for easier access
- Preloaded when requested
- Modules up to 96 fibers per U
- Up to 384 fibers 3U with cable management
- Higher density available



Copper Patch Cords

- Cat 6a – shielded patch cords
- Small 30 awg Slimflex available
- Red-Blue-Green-Yellow-Grey-White
- Standard lengths or as demand
- Highly durable with dual boot design

10G – 40G Ethernet Cabling

- Category Cables up to Cat 8.2 standards
- Utilize Draka's tight extrusion, slim design
- High performance fibers up to OM5
- Sole proprietary technology PCVD fibers
- Min heat dissipation from copper cabling and superior transmission for energy savings

Angled / Swivel Panels

- Copper angled panels / self aligned
- Optimized for Data Centre cabling
- Provide easier fingers access
- Ideal for high density patching

Fibre Pigtails / Patch cords

- Standard or Bendbright™ fibers
- Low loss connectors
- Mini duplex LCs / LC / ST / SC / FC
- "Long tail" LCs for easier removal

Pre-Terminated Cabling

- Fiber and copper pre-terminated
- Plug & Play convenience
- Available in all transmission modes
- Red-Blue-Green-Yellow-Grey-White
- Standard lengths or as demand

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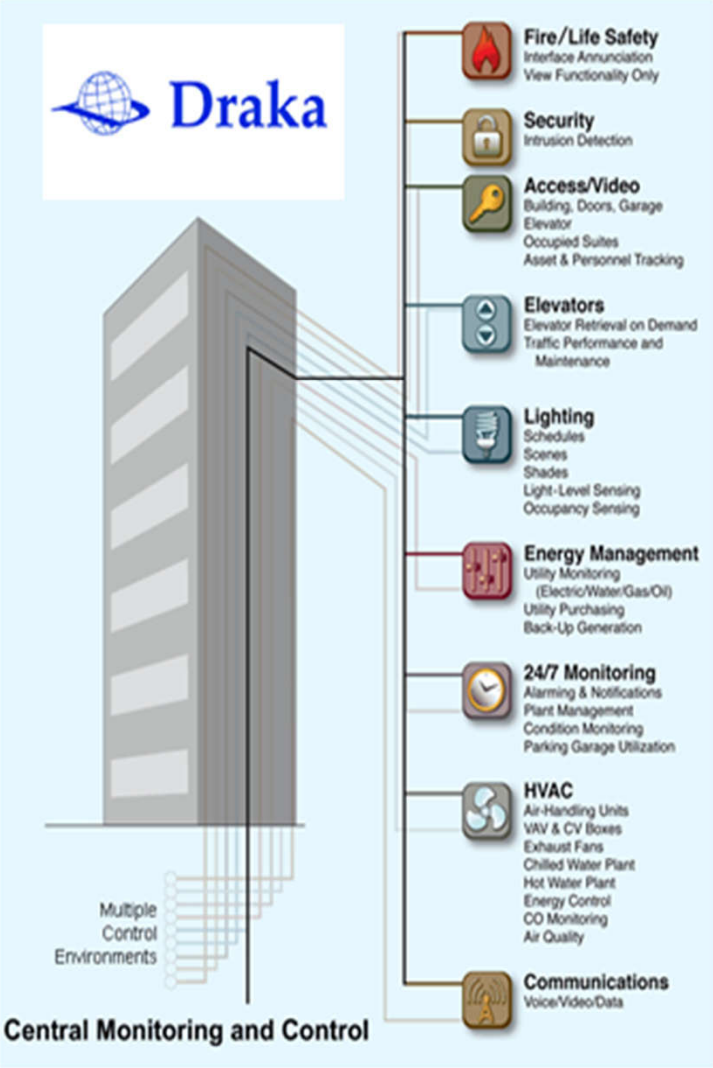
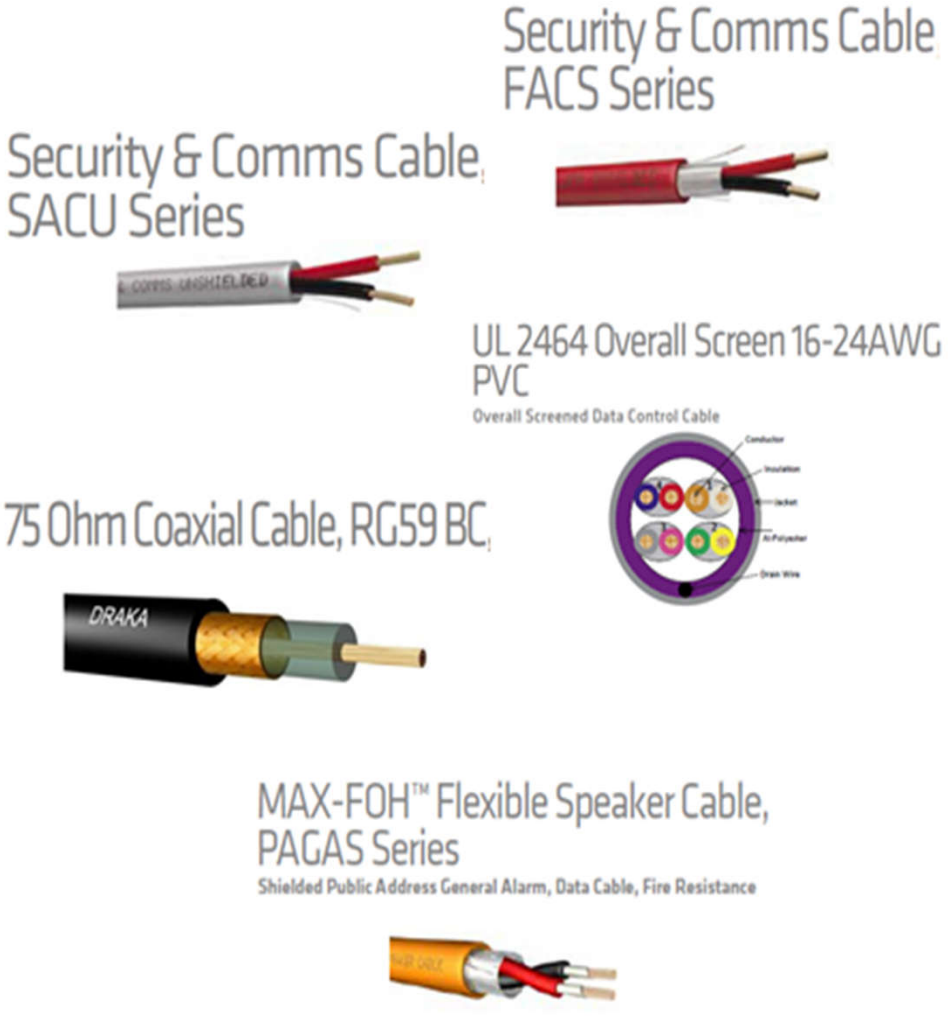
Prysmian Draka – Giải pháp, sản phẩm





Prysmian Group

Multimedia Solution Product Overview

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Philips Lighting – Giải pháp, sản phẩm

Indoor Luminaire for Hospitality & Apartments

TWD
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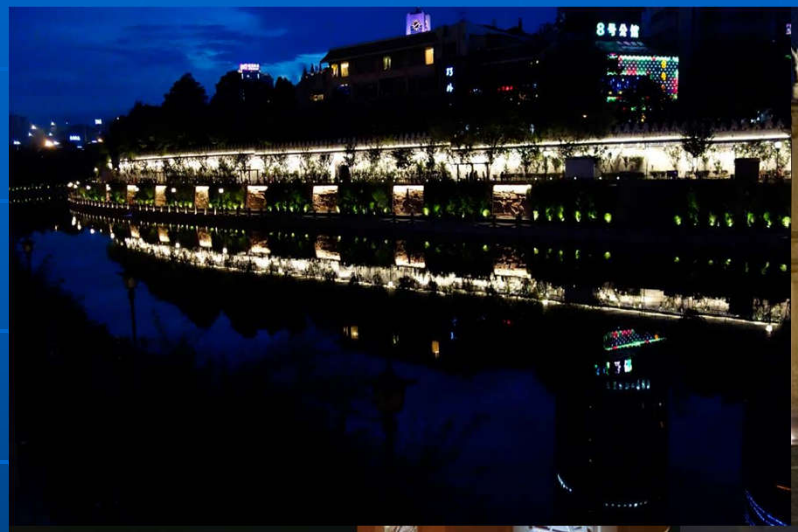
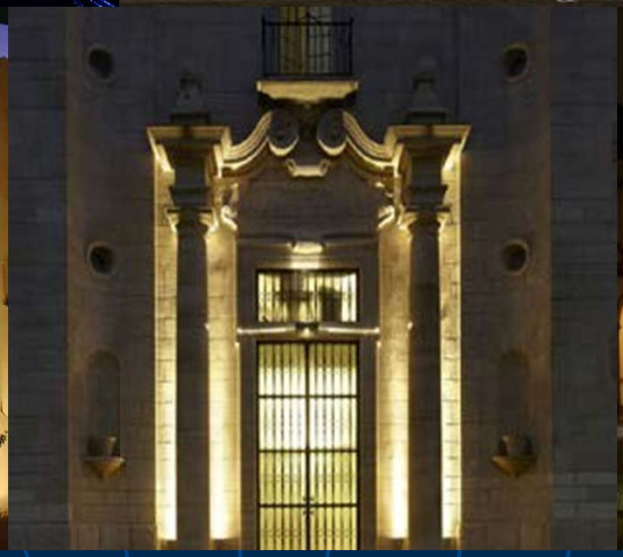
Philips Lighting – Giải pháp, sản phẩm

Facades Lighting





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Philips Lighting – Giải pháp, sản phẩm

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Philips Lighting – Giải pháp, sản phẩm

Lighting in Industrial & Office

Office area

Production area

Warehouse area

Front and Parking area

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Philips Lighting – Giải pháp, sản phẩm

Philips Smart Hotel Room Control

Philips RoomFlex Guest Room Control System

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Helukabel – Giải pháp, sản phẩm

HELUKABEL®

The HELUKABEL® Group is a German multinational manufacturer and supplier of cables, wires and cable accessories. With over 1,700 employees located across 57 locations in 36 countries, we offer a broad range of both standard and custom cabling products for multiple sectors. Through innovation, technical expertise and industry knowledge, we strive to develop the optimal cable solutions for every application.

HELUKABEL® Vietnam was founded in 2016 to supply our high-quality cables directly to the Vietnamese market. Since then, over 200 different local customers, including Vietnam's National Assembly House, have applied our cables. With a warehouse of over 1,100 m² in Ho Chi Minh City, and team members also in Hanoi, Hai Phong, Da Nang and Binh Duong, combined with a vast global network, we provide timely deliveries of a variety of cabling products to meet and satisfy our customers' needs.

Marc Luksch
Managing Director, HELUKABEL® GmbH

Channeling POWER

Cables are the vital supply lines of complex machines, plants, and systems. Whether operating under extreme mechanical stress, in the middle of the Arctic Ocean, in the scorching heat, or in the vastness of space – such conditions demonstrate what top-of-the-line cables can achieve.

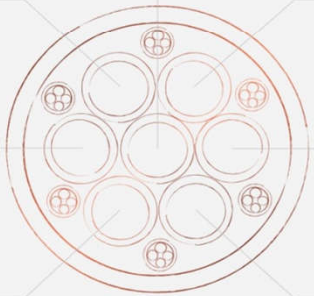
We at HELUKABEL® have made it our mission to bring energy and communication to our customers' destinations reliably and consistently at all times, and to make the impossible, possible! "Channeling Power" succinctly summarizes this mission and is our commitment to customers.

Channeling FACTS

SOLID
- Family enterprise since 1978

QUALITY-MINDED AND ECOLOGY-MINDED
- ISO 9001 & 14001 & 50001
- Over 1,250 kW total capacity from the firm's own solar plant

HIDDEN CHAMPION
- 600 million Euro turnover
- 1,700 employees



GLOBAL
- 57 locations in 36 countries
- Just-in-time delivery to over 160 countries

PRODUCTION
- 7 manufacturing and assembly sites worldwide

LOGISTICS
- 33,000 products in stock
- 24h delivery service
- State-of-the-art logistics

PRODUCT
- Cables, wires, and cable accessories - a single source for industry and infrastructure

Channeling INNOVATION

Custom Cable Solutions

We are committed to supplying the optimal cable for your application and we develop innovative custom solutions to fulfill the most challenging requirements.

Our test facilities:
- Torsion test tower for wind power cables
- Drag chain test equipment (1 m, 3 m, 5 m, 6 m, 18 m, 20 m and 40 m accelerations up to 50 m/s; travel speeds up to 10 m/s)
- Fire testing equipment
- Abrasion testing equipment
- Test facilities for bending and torsion requirements
- Aging furnaces according to UL, VDE, CSA, HAR, TÜV, CCC

Channeling EFFICIENCY

WINDSBACH & MEISSEN
2 PRODUCTION PLANTS

IN GERMANY

- Annually produced 1 million conductors (~77 times around the globe)
- 300 specialized employees
- 50,000 m² production facility
- 26 extruder facilities
- 20 stranding machines
- 60 braiding machines
- Cables & wires from 0,05 to 1000 mm²
- According to: EAC, UL-CSA, HAR, CCC,
- Germanischer Lloyd, TÜV or according to customer specifications

JARWORZNO
PRODUCTION PLANT

IN POLAND

In the vicinity of Krakow, the subsidiary Eltron-Kabel manufactures high-quality copper stranded wires and strips, compensating and thermoelectric cables as well as high-temperature cables for permanent use up to 400°C.

The products, which are manufactured according to international standards as well as customer-specific requirements, are used worldwide, for example, in the automotive industry, electrical industry, large-scale plant construction and heavy industry.

TAICANG
PRODUCTION PLANT

IN CHINA

HELUKABEL® operates a new production facility in Taicang (near Shanghai) in China. 7,000 sqm of production space is ready to produce cables and wires for the Asian market.

Focus will be on quality flexible and highly flexible cables and wires, manufactured according to Chinese and international standards. Adjustable manufacturing cells that allow for short delivery times, and the proximity to HELUKABEL®'s logistics centre, offer essential advantages for executing large projects in the Asian market.

Channeling LOGISTICS

Global Logistics Network

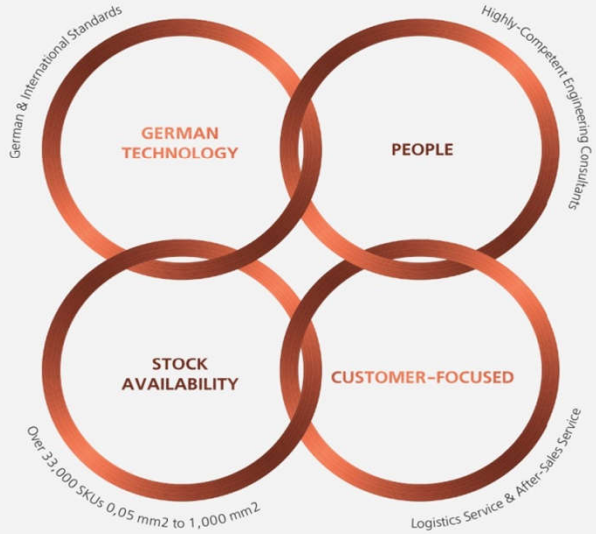
Our logistics network is designed for product availability and fast delivery:
- 34 logistics facilities worldwide
- Regional hubs in Europe, Asia, North & South America
- Access to over 33,000 items
- Custom cable cutting

TWD
Successful Together

Helukabel – Giải pháp, sản phẩm

Channeling KNOW-HOW

OUR STRENGTHS



OUR CUSTOMERS

MANUFACTURING | ENGINEERING | COMMERCIAL

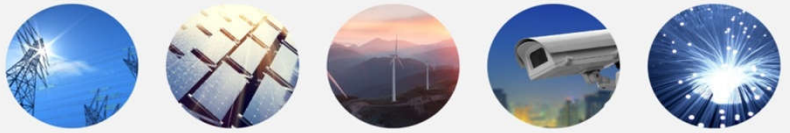
Channeling EXPERIENCE

INDUSTRIES

MACHINE & PLANT ENGINEERING | STEEL INDUSTRY | CONTROL CABINET CONSTRUCTION | AUTOMATIVE INDUSTRY | FOOD AND BEVERAGE

OIL, GAS & CHEMICAL INDUSTRY | DRIVE TECHNOLOGY | AUTOMATION TECHNOLOGY | ROBOTICS | AGRICULTURAL TECHNOLOGY

INFRASTUCTURE

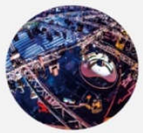


ENERGY SUPPLY | PHOTOVOLTAICS | WIND ENERGY | BUILDING TECHNOLOGY | BROADBAND EXPANSION

MOBILITY

E-MOBILITY | RAILWAY CONSTRUCTION

EVENT & MEDIA TECHNOLOGY



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Helukabel – Giải pháp, sản phẩm

Channeling EXPERTISE

PRODUCT PORTFOLIO

Cables, Wires & Accessories

INDUSTRIAL CABLES AND WIRES

An extensive product portfolio for a wide range of industries and applications. Our comprehensive range of standard and warehouse products includes:

- Flexible control cables
- Data and computer cables
- Drag chain cables
- Motor, servo and feedback cables
- Heat-resistant cables
- All-weather and rubber cables
- Trailing cables • Robot cables
- Flat and ribbon cables
- Single cores
- Coaxial cables
- Halogen-free cables
- International approved cables
- Photovoltaic cables
- Wind turbine cables

INFRASTRUCTURE CABLES AND WIRES

Our products for power supply, telecommunications and building technologies play a crucial role in supplying electricity to the public and providing uninterrupted data transmission, which includes:

- Building wires
- Telecommunication and fibre optic cables
- Medium-voltage cables
- Fire alarm cables
- Underground cables
- Safety cables

DATA, NETWORK AND BUS TECHNOLOGY

A wide range of data, network and bus technology services is offered from expert selection analysis to supply the right cables and accessories – all from one single source, which includes:

- Copper connection technology
- Processing and measurement technology
- Active components
- Fibre-optic cables
- Copper data cables
- Bus cables
- Network system cabinets
- Fibre-optic connection technology

MEDIA TECHNOLOGY

Our media technology cable range includes cables for both indoor and outdoor use and guarantees high transmission quality in fixed installations as well as for mobile use. Our comprehensive range of products includes:

- AES/EBU audio cables
- DMX cables
- Round and multi-core speaker cables
- Hybrid cables
- Multi-core cables
- Load cables
- Microphone cables
- State-of-the-art video cables
- Connection technology
- Halogen-free cables
- Custom cable solutions

SPECIAL CABLES

We develop optimal, customised cable solutions according to individual customer needs and application-specific requirements, including:

- Robotic and automation hybrid cables
- Construction crane and lift trailing cables
- Sensor, actuator and distribution cables
- Drag chain cables for highly dynamic applications
- Mud-resistant cables for the oil and offshore industries
- Temperature-resistant cables for traffic engineering
- Industry 4.0 data cables

CABLE ACCESSORIES

Suitable accessories are also available for matching connection technology for optimal and long-term cable reliability, including:

- Cable glands
- Cable protection tube systems
- Drag chains
- Insulating and heat-shrink tubes
- Braided & high-temperature tubes
- Termination and connecting sleeves
- Bundling, binding and fastening
- Labelling and marking
- Core-end sleeves and cable lugs
- HELUTEC® signal and power connectors
- Tools

OUR BRAND PORTFOLIO

CABLES & WIRES

CLEANFLEX® · DATAFLAMM® · HELUTHERM® · HELUTRAIN® · HELUTRUCK® · HELUWIND® · MEGAFLEX® · MULTISPEED® · ROBOFLEX® · SOLARFLEX® · THERMFLEX® · TOPFLEX® · TOPSERVE®

CABLE ACCESSORIES

HELUCHAIN® · HELUTEC® · HELUTOP®

DATA, NETWORK & BUS TECHNOLOG

HELUCOM® · HELUKAT®

MEDIA TECHNOLOGY

HELUEVENT® · HELULIGHT® · HELUSOUND®

GLOBAL APPROVALS

PRODUCTS OF HELUKABEL® COMLY WITH THE FOLLOWING STANDARDS

Belgium	Comite Electrotechnique Belge
China	China Compulsory Certification (CCC)
Denmark	Danmarks Elektriske Materialkontroll (DEMKO)
Germany	VDE-Prufstelle (Verband Deutscher Elektrotechniker e.V.) Fraunhofer Institut Produktionstechnik und Automatisierung
Europe	Communaute Europeenne
Finland	FIMKO LTD
France	Union Technique de l'Electricite
United Kingdom	British Standards Institution (BSI)
Italy	Instituto Italiaano de Marchio Qualita (IMQ)
Canada	Canadian Standards Association (CSA)
Netherlands	Naamloze Vennootschap tot Keuring van Electrotechnische Materialen
Norway	(KEMA) Norges Elektriske Materiellkontroll (NEMKO)
Austria	Osterreichischer Verband fur Elektrotechnik
Russia	GOST-R Zertifizierung (SGS)
Sweden	Svenska Elektriska Materielkontrollanstalten (SEMKO)
Switzerland	Schweizerischer Elektronischer Verein (SEV)
USA	Underwriters Laboratories Inc. (UL)

TWD
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Helukabel – Giải pháp, sản phẩm

wieland

OUR PARTNER
Tailored Solutions for

MACHINE BUILDING | LIGHTING TECHNOLOGY | BUILDING TECHNOLOGY | WIND POWER

TERMINAL BLOCK

DIN Rail Terminal Blocks with Tension Spring Connection fasis WKFN

DIN Rail Terminal Blocks With PUSH-IN Connection fasis WTP

DIN Rail Terminal Blocks With Screw Connection selos

INDUSTRIAL CONNECTORS

revos MINI

revos BASIC / BASIC M

revos

revos Q

Round Connector RST® MICRO, 8 A System

Round Connector RST® MINI, 16 A System

Round Connector RST®CLASSIC, 20 / 25 A System

POWER SUPPLIES

WIPOS PURE POWER

AT HOME ALL OVER THE WORLD

Wieland Electric GmbH is a medium-sized family-run electrical and electronics company headquartered in Bamberg. Founded in 1910, Wieland is one of the pioneers of electrical connection technology. This family business with its international outlook is a market leader in pluggable installation technology for functional buildings, with subsidiaries worldwide and production lines not only in Bamberg but also in the Czech Republic and China.

The Wieland Group, which has included STOCKO Contact GmbH & Co. KG since 1998, is there represented in over 70 countries and employs some 2,200 people.

Channeling EXPERIENCE

OUR GLOBAL PROJECTS

AUTOMATION/ ELECTRONIC/ SENSORS
MURR, ESCHA, Phoenix Contact, Rockwell, Woodhead, Belden, Harting, Fanuc, Euchner, Siemens, Bosch-Indramat Schneider Electric, SEW Eurodrive

AUTOMATIVE INDUSTRY
Daimler, BMW, Volkswagen, Ford, Opel, Fiat, Porsche, Volvo, GM, Audi, Honda, Toyota, Renault, Skoda, KIA, Hyundai, Magna, Tata

ENERGY INDUSTRY/ WIND INDUSTRY
RWE, Eon, Vattenfall, Enercon, GE Wind, Siemens, Suzlon, Acciona, Impsa, E.N.O, Vensys, Nordex, 2B Energy, Skywind, Prokon, Schütz, Leitwind, Regen-Power-tech, Senvion, Adwen, Garuda, RRB, Unison, FWT, NU Power, Alstom

FOOD & BEVERAGE
Nestlé, Unilever, Danone, Coca-Cola, Pepsi, Heineken, Becks, Tsingtao, Budweiser, Big Dutchman, Guinness

CHEMICAL INDUSTRY
BASF, Hoechst, Bayer, Rhone Poulenc, Dynamit, Nobel, Chem. Werke Hüls, Wacker Petrochemie, Dow Chemical, Shell, BP, Sabec

MACHINERY INDUSTRY
Thyssen, Krones, Homag, Schuler, Georg Fischer, Cincinnati Milacron, Mikron, DMG, Comau, Müller-Martini, WEG, MAG, Anthon, Bühler, Voith, BHS, Liebherr, Andritz, Heller, Bosch, Grob, Trumpf, Monforts, Kautex, Arburg

PLANT CONSTRUCTION
ABB, BEA, Baumüller, Cegelec, Siemens, Imtech, Actemium, Uhde, GEA-Group, Areva, Kuka, Linde, Controlmatic, Dürr, Takraf, Elpro, Alstrom

COMPUTER INDUSTRY
IBM, HP, Motorola, Intel, NEC, Hitachi, Daewoo, LG-Electronic, Samsung, Infineon, ASML, M+W, Alcatel-Lucent

TRANSPORTATION
DB, Bombardier, Stadler, Lufthansa, Airbus, Carotec, Scheuerle, KAMAG, Cavotec, Leitner, Meyer-Werft, Hyundai Heavy Industries

ELECTRICAL WHOLESALE
Many local and national providers as well as international partners

STEEL INDUSTRY
Thyssen-Krupp, Hoogevens, BAO-Steel, Sidmar, Arbed, Eko-Stahl, Arcelor Mittal, Posco, Salzgitter, Essar-Steel

TWD
Successful Together

Legrand – Giải pháp, sản phẩm

MOSAIC - CÔNG TẮC Ổ CẮM KHÁNG KHUẨN

legrand

MOSAIC
WIRING ACCESSORIES &
HEALTHCARE BUILDINGS

Mosaic™ Programme

P. 876 Switches
P. 877 Push-buttons and accessories
P. 878 Pull-cord switches and ventilation control
P. 878 Radio switches
P. 879 Sensitive switch, touch switches and skirting light
P. 880 Motion and presence sensors
P. 881 Dimming control
P. 883 Colour-lighting management and time switches
P. 884 Heating, temperature regulation and roller blind controls
P. 885 Keyswitches, emergency push-buttons, keycard switches
P. 886 N Wireless power chargers
P. 887 International standards socket outlets
P. 889 N USB charging sockets
P. 890 Protection mechanisms, buzzers and bells
P. 891 RJ 45 sockets
P. 893 Rear pluggable RJ 45 sockets and switches
P. 893 Data, telephone and TV sockets
P. 895 Bluetooth sound diffusion and loudspeakers
P. 896 SUB D sockets, USB data sockets and USB extender
P. 897 Audio and video sockets
P. 899 Illuminated signage functions
P. 902 Workstation kits
P. 903 Surface-mounting boxes and adaptors
P. 904 Plates
P. 906 Supports

Specific functions for healthcare buildings

P. 908 N Call units and nurse call units for day hospitals...
P. 910 N BUS/SCS nurse call units
P. 913 System products
P. 914 Secure wandering device
P. 915 Control units for bedhead strips
P. 916 Lighting to assist with independent living
P. 917 Isolatin transformers for hospitals
P. 918 Insulation monitoring device (IMD)

legrand

NEW PRODUCTS

Wireless power chargers (p. 886)

Preterminated USB Type-C sockets USB charging socket (p. 889)

Equipped hand-held remote control units (p. 909)

Insulation monitoring device (IMD) (p. 918)

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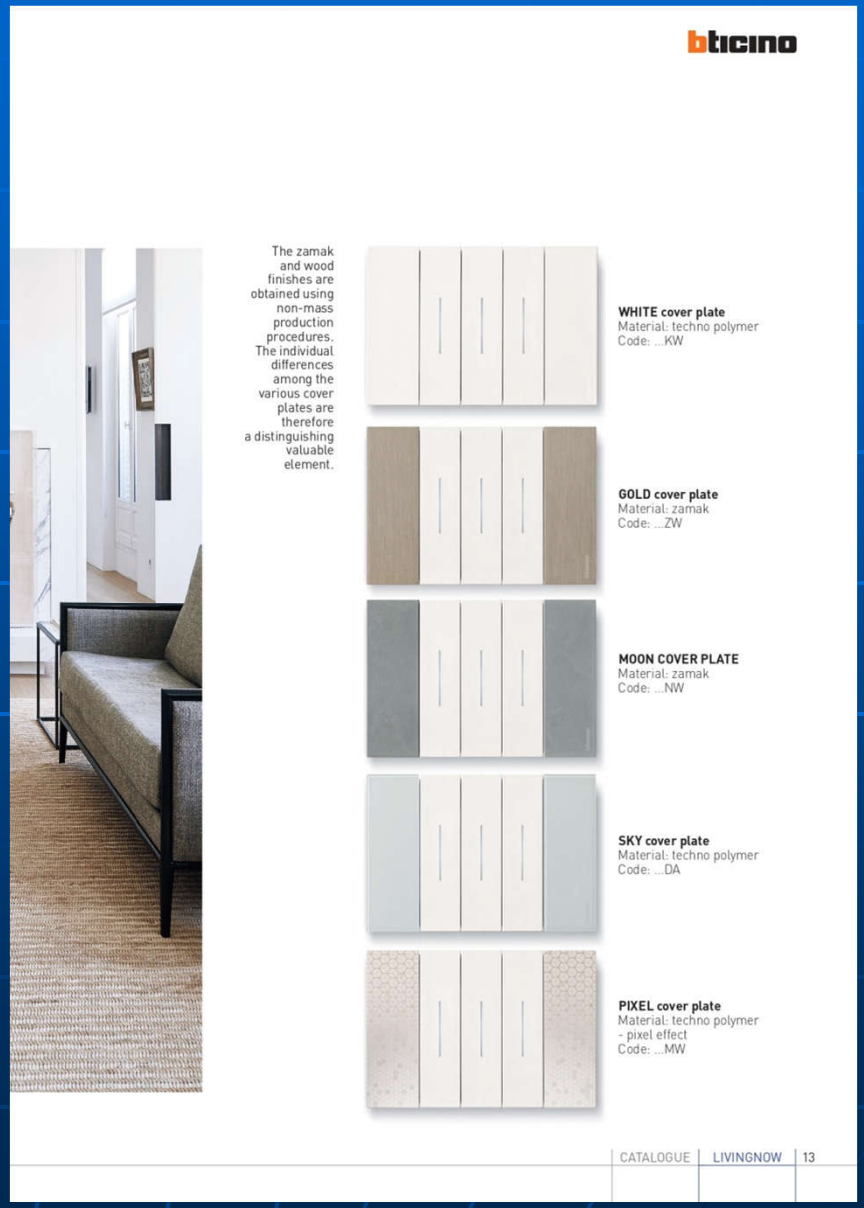
Legrand – Giải pháp, sản phẩm

LIVING NOW - CÔNG TẮC Ổ CẮM



TWD
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Legrand – Giải pháp, sản phẩm

LIVING NOW - CÔNG TẮC Ổ CẮM

LIVING now

DEVICE FINISHING

WHITE

SAND

BLACK

bticino

3 COLOURS FOR THE DEVICES
The devices feature an aesthetic component, the covers, available in three different colours: white, sand and black. Satin finish surface: for a pleasant feel.

COMBINATION WITH THE COVER PLATES
The Living Now cover plate range includes 16 finishes, purposely selected for use with the device covers, and made of different materials: techno polymer, metal and wood.

COORDINATION OF APPEARANCE OF THE MYHOME_UP DIGITAL CONTROLS
MyHOME_Up digital controls do not require the use of cover plates and are available in white, sand and black.

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Legrand – Giải pháp, sản phẩm

LIVING NOW - CÔNG TẮC Ổ CẮM

bticino

The zamak and wood finishes are obtained using non-mass production procedures. The individual differences among the various cover plates are therefore a distinguishing valuable element.

BLACK cover plate
Material: techno polymer
Code: ...KG

SPACE cover plate
Material: zamak
Code: ...NG

WALNUT cover plate
Material: wood
Code: ...LG

NIGHT cover plate
Material: techno polymer
Code: ...DG

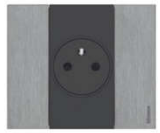
bticino

SOCKET OUTLETS STANDARD

The socket outlets range is complete of the main international standards.

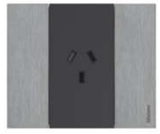
GERMAN

ITALIAN

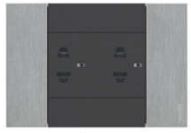


FRENCH / BELGIAN

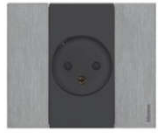
AMERICAN



AUSTRALIAN

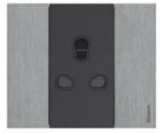


EURO / AMERICAN



ISRAELI

CHINESE



INDIAN

BRASILIAN

MULTISTANDARD

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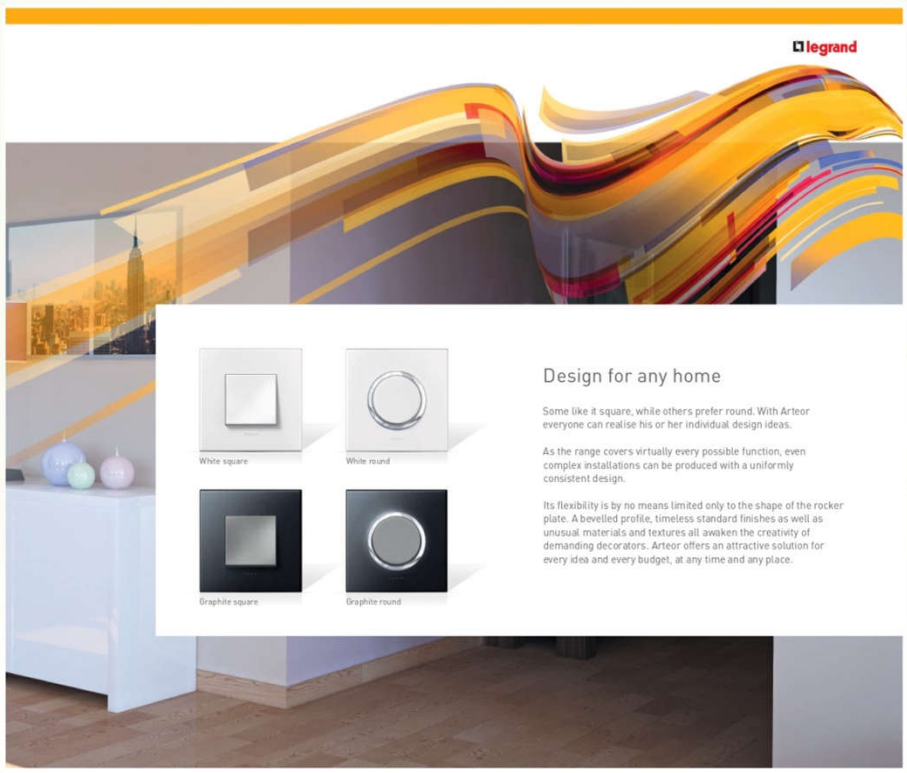
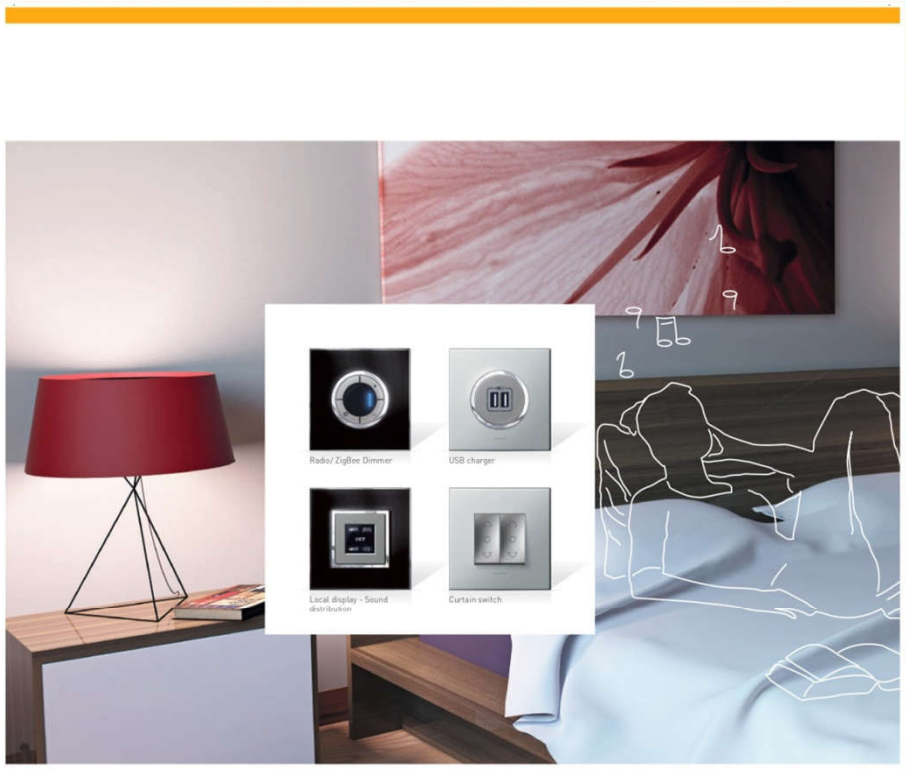
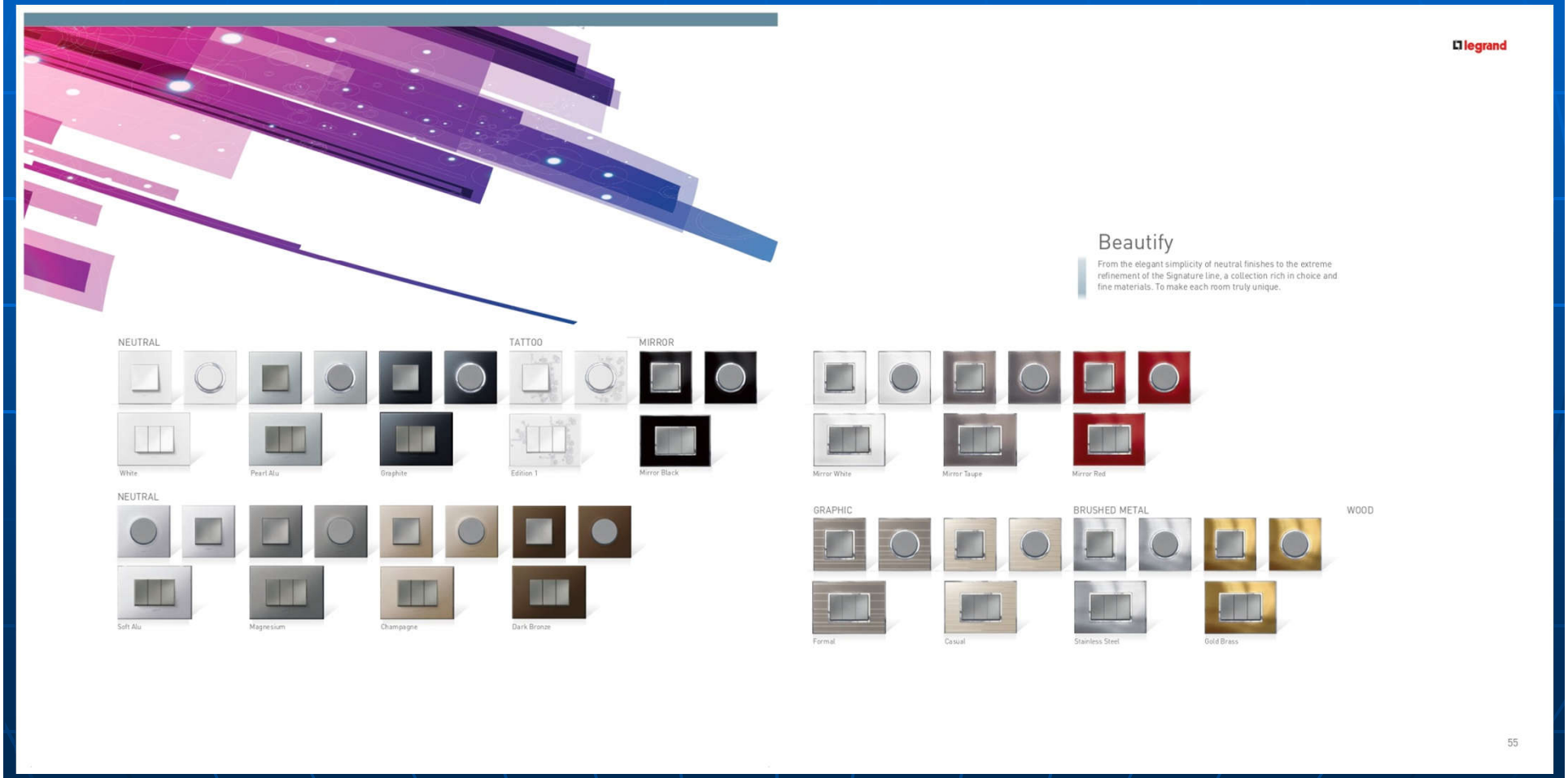
ARTEOR - CÔNG TẮC Ổ CẮM





ARTEOR - CÔNG TẮC Ổ CẮM



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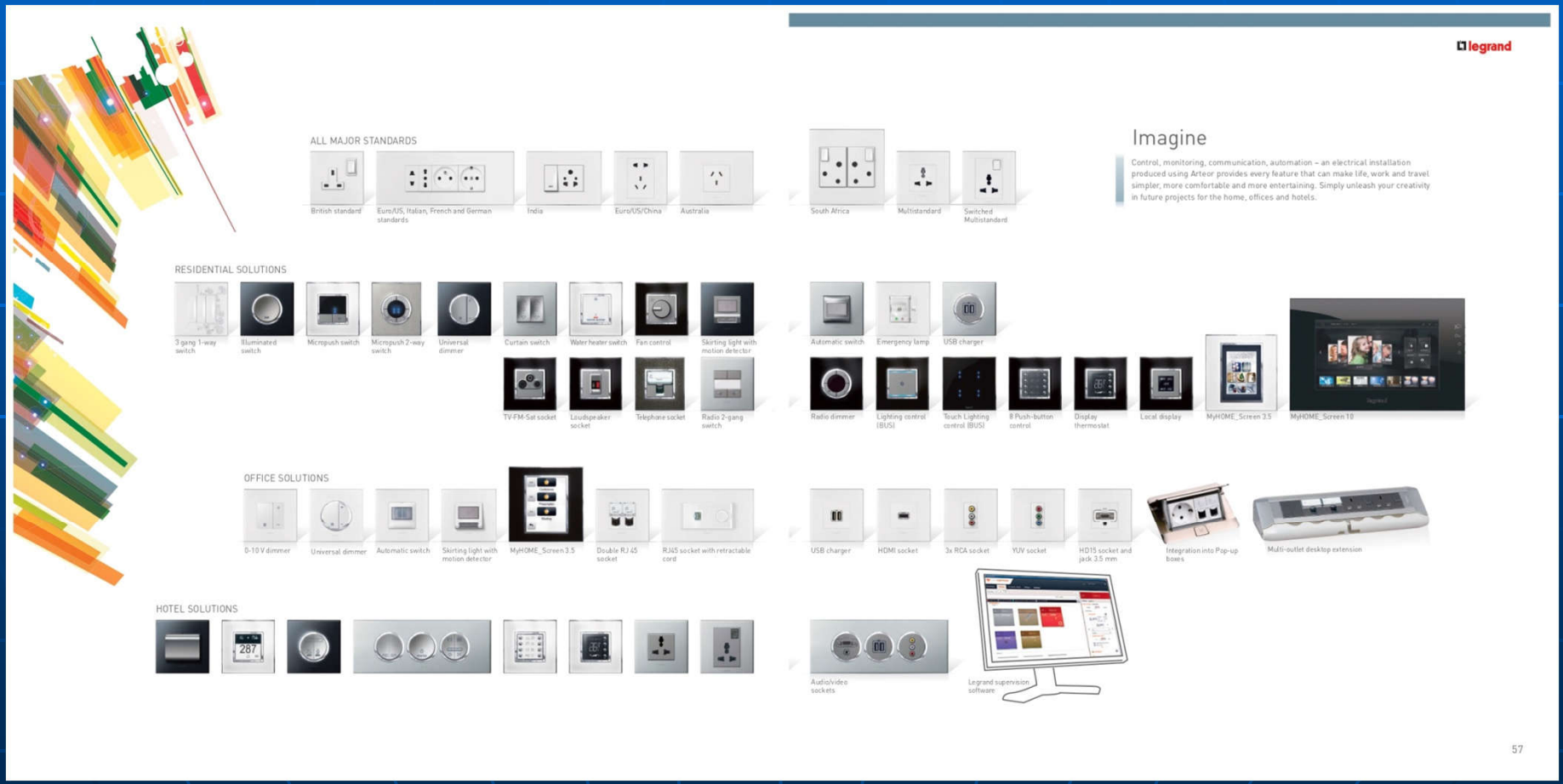
ARTEOR - CÔNG TẮC Ổ CẮM



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BELANKOS & GALION - CÔNG TẮC Ổ CẮM

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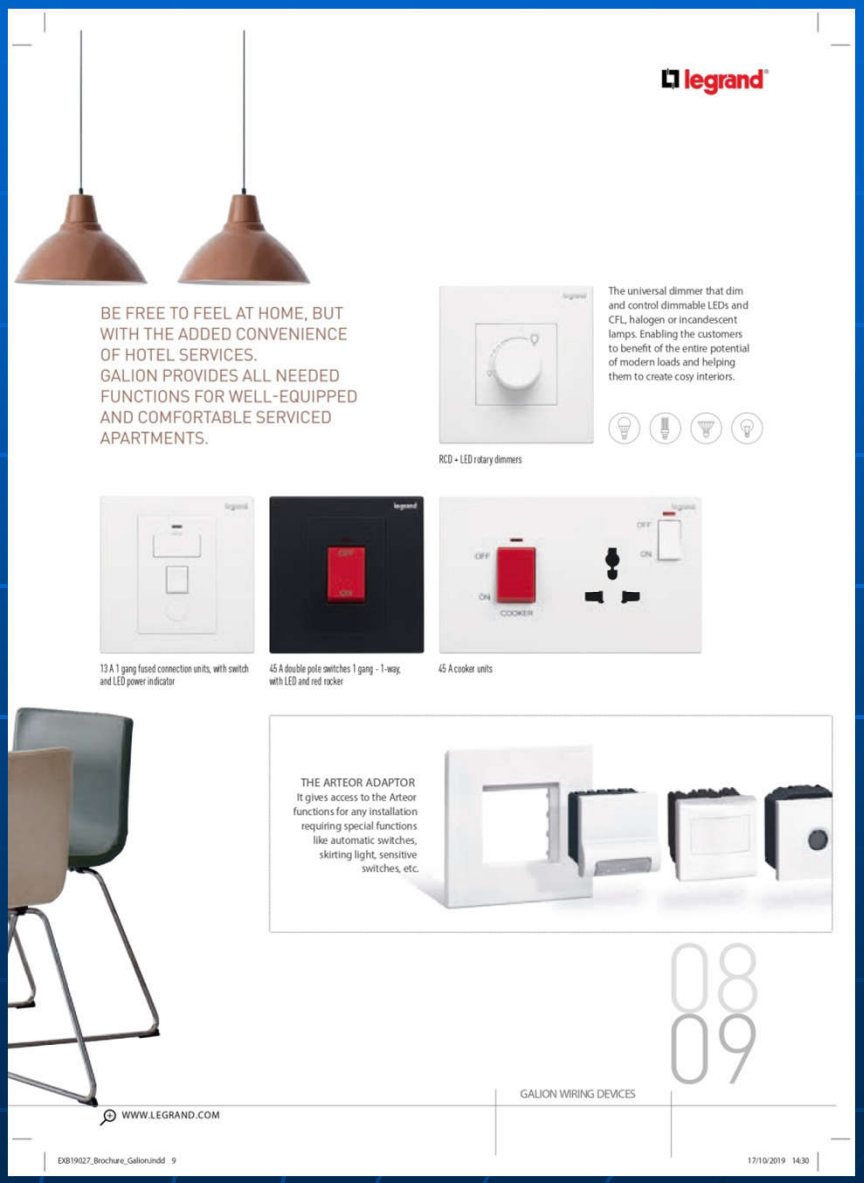
GALION - CÔNG TẮC Ổ CẮM



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PRACTIBOX – TỦ ĐIỆN PHÒNG

Practibox S

A WELL-DESIGNED RANGE

-> CATALOGUE PAGES INSIDE

READY TO USE CABINETS
FROM 4 TO 72 MODULES

GLOBAL SPECIALIST
IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

PRACTIBOX S DISTRIBUTION CABINETS

PRACTIBOX S
A RESISTANT & COMPREHENSIVE RANGE

Covers the whole range of needs on your work sites

Thanks to an extensive offer scope, Practibox S cabinets adapt to any configuration regardless of the type of installation, flush-mounted in concrete, brick or dry partitions, or even surface-mounted. Resistant to impacts and fire up to 850°, they all comply with the applicable standards.

SURFACE-MOUNTING VERSION

Supplied with:
- smoked frosted transparent door or white door
- without terminal blocks or
- with earth terminal block or
- with neutral and earth terminal blocks

FLUSH-MOUNTING VERSION

- for concrete and bricks or for dry partitions

Supplied with:
- smoked frosted transparent door or white door
- without terminal blocks or
- with earth terminal block or
- with neutral and earth terminal blocks

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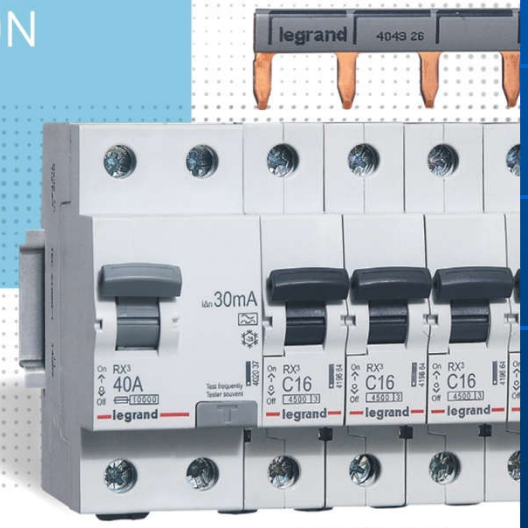
Legrand – Giải pháp, sản phẩm

RX³ - MCBs & RCCBs

RX³
ESSENTIAL
PROTECTION



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THE **GLOBAL SPECIALIST**
IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

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IDEAL FOR BUILDINGS IN THE RESIDENTIAL AND SMALL BUSINESS SECTORS (OFFICES, SHOPS, ETC.)

THERMAL-MAGNETIC CIRCUIT BREAKERS

- In = 6 to 63 A
- 1P/1P+N/2P/3P/3P+N/4P
- Breaking capacity 4500 and 6000 at 230/400 V~
- Breaking capacity 6000 and 10000 at 127/220 V~
- B and C curve
- Conform to standard IEC 60898-1

WWW.LEGRAND.COM WWW.LEGRAND-COPYTRACER.COM

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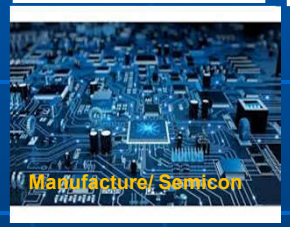
Eaton – Giải pháp, sản phẩm

Market Verticals We Serve



aws

Google

STTelemedia

EQUINIX

tsmc

TELKOMSEL

SUPREME COURT
REPUBLIC OF THE PHILIPPINES

DIGITAL REALTY

TechWing

emart

Product Portfolio

Distributed Power Quality (DPQ)

1P UPS, Racks, PDUs, MDC

1P Standby

Ellipse ECO, 3S

1P Line Interactive

5L, 5E, 5S, 5SC, 5PX, 5P

1P Online

9E, 9SX, 9PX

Racks, PDUs and MDC

Critical Power Systems (CPS)

3P UPS

93E/93ET, 93PR, 93PM

9395, 9395P

DV2 System, RM3 subrack, HPR48-ES,EC500

9PXM

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Eaton – Giải pháp, sản phẩm

3 Phase UPS Portfolio

93PS
8-40 kW

- 8,10, 12, 15..40 kW
- Efficiency up to 96.3%
- Modular design
- Hot swap Mod/SS
- ESS/VMMS/HS/ ABM, Internal/ External bat.
- Hot-Sync Parallel x 4

93PR/PM
25-600 kW

- Module 25/50/60kW
- Frame 75/200/500 /600
- Efficiency up to 96.3%
- Modular design
- Hot swap Mod/SS
- ESS/VMMS/HS/ ABM, Internal/ External bat.
- Hot-Sync Parallel x 8

9395/P
300 -1200 kW

- 300, 600; 900; 1200 KW
- Efficiency up to 96.3 %
- Modular design
- ESS/VMMS/HS/ ABM, External bat.
- Distributed and Centralized topologies
- Hot-Sync Parallel x 8

93E/XL
15-500 kVA

- 15 , 20, 30..500 kVA@ pf 0.9/1
- Efficiency up to 94%/96%
- Internal Battery up to 40KVA
- 93EXL with Internal Batt for XL back up time
- High Efficiency mode →98.5%
- ABM & Hot-Sync Parallel x 6

Modular
Tower

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Dự án tiêu biểu

Dự án Khách sạn, Resort Movenpick Phú Quốc

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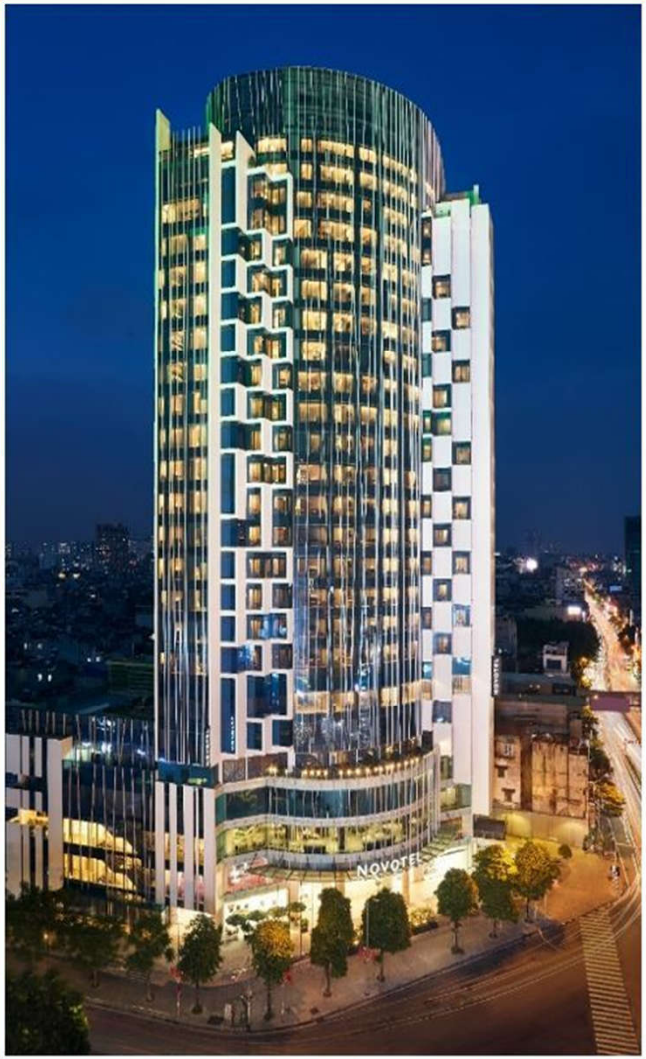
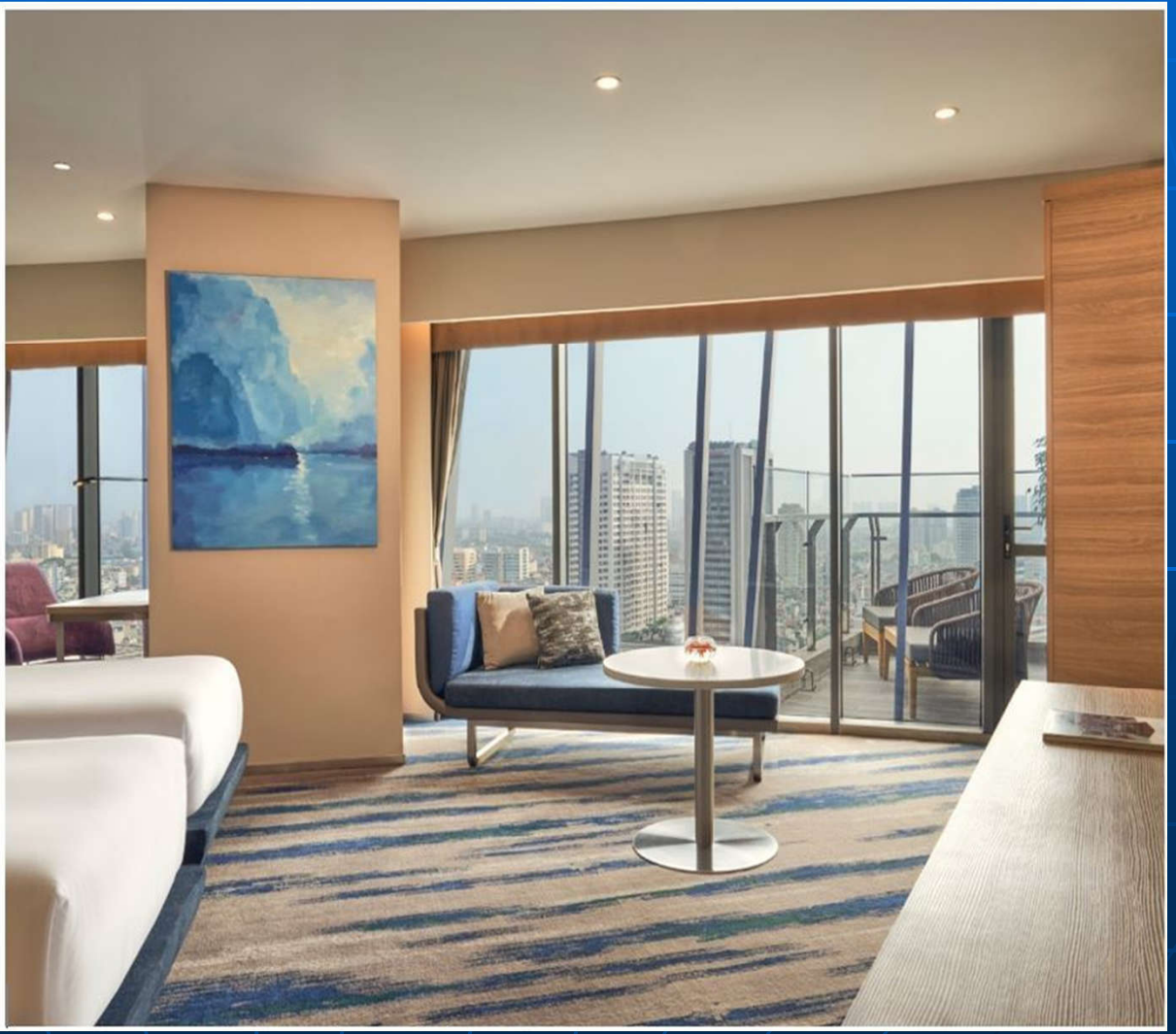
Dự án tiêu biểu

Dự án Khách sạn Novotel Thái Hà





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Dự án tiêu biểu

Dự án Khách sạn MGallary Sapa

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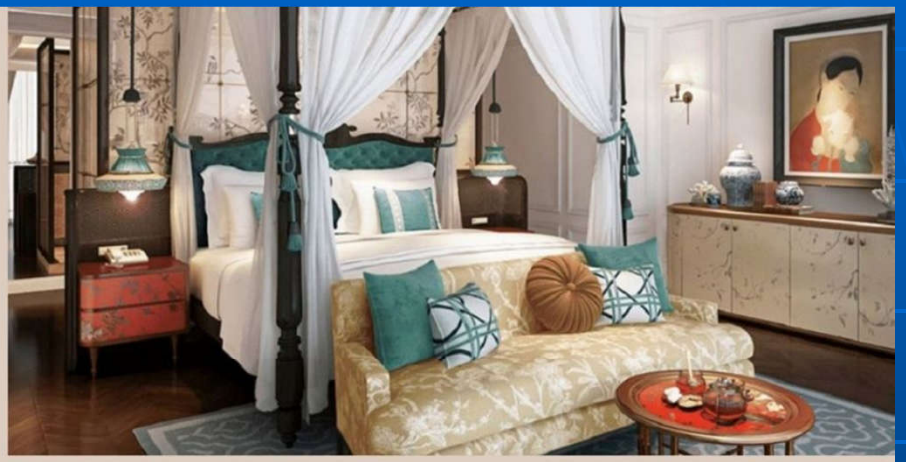
Dự án tiêu biểu

Dự án Khách sạn MGallary Cát Bà



MGallery resort
Cát Bà

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Dự án tiêu biểu

Dự án Khách sạn Mikazuki Đà Nẵng

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Dự án tiêu biểu

Dự án The Manor Central Park

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Dự án tiêu biểu

Dự án Sunshine Diamond River

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Dự án Mỹ Đình Pearl

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Dự án tiêu biểu

Dự án Imperia Smart City

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Dự án tiêu biểu

Dự án Techcombank Saigon Tower

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Dự án tiêu biểu

Dự án Tòa nhà Văn Phòng Chính Phủ

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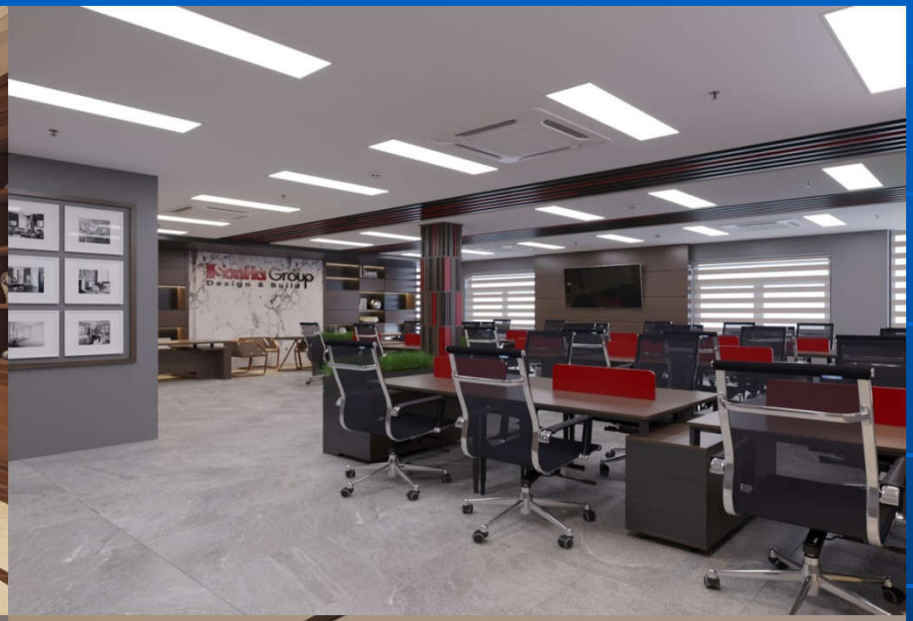
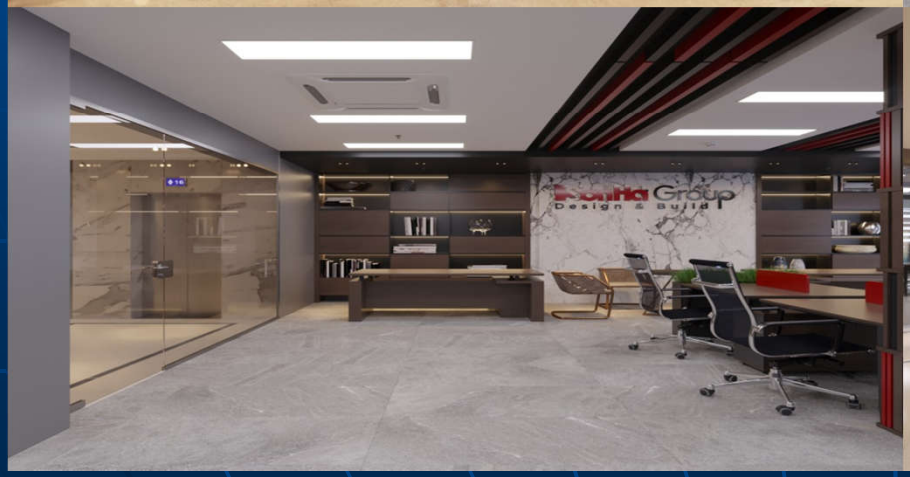
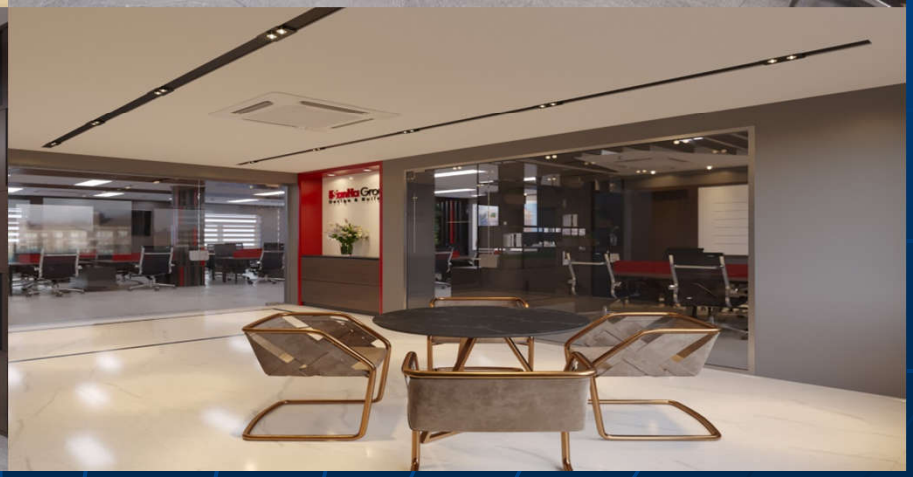
Dự án tiêu biểu

Dự án Trụ Sở Công Ty Cổ Phần Tư Vấn Xây Dựng Sơn Hà (SHAC) – Sơn Hà Group

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Dự án tiêu biểu

Dự án Đại Học Anh Quốc BUV – British University Vietnam

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Dự án tiêu biểu

Dự án Bệnh Viện Việt Pháp - Hanoi French Hospital

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Dự án tiêu biểu

Dự án Bệnh Viện VinMEC Time City

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Dự án tiêu biểu

Dự án Bệnh Viện 108 Hanoi

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Dự án tiêu biểu

Dự án Bệnh Viện Đa Khoa Quốc Tế Hải Phòng

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Dự án tiêu biểu

Dự án nhà máy VICOSTONE

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Dự án tiêu biểu

Dự án nhà máy Phenikaa

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Dự án tiêu biểu

Dự án nhà máy Thực Phẩm Hữu Nghị

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Dự án tiêu biểu

Dự án nhà máy ABB

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