



## ***Dekoron Capabilities***



***Dekoron***<sup>®</sup>  
***Wire & Cable, Inc.*** ***The Instrumentation Cable Experts***

# The Expert to know in instrumentation cable...

Since our entry into the instrumentation market over fifty years ago, many of the significant advances in instrumentation signal transmission have been Dekoron Innovations.

It is over these 50 years that the Dekoron Wire & Cable product has been advanced into what it is today.

We are proud that our designs have been adopted as industry standards. From these constructions Dekoron has developed thousands of variations of instrument wire, thermocouple extension wire and control cables to meet customer requirements.

As a member of the Marmon Group of Companies, an international, multi-billion dollar association of more than 60 autonomous manufacturing and service companies, Dekoron has the management and financial strength needed to sustain its leadership position and tradition of excellence in the market.



1939

Started as the Samuel Moore Company

1978

Eaton purchased Samuel Moore Company

1987

Furon purchased Samuel Moore Company from Eaton

1999

Marmon Group of Companies purchased Dekoron

2005

Dekoron Wire & Cable, Inc.

**Whether you have known our cables as Samuel Moore, Eaton, Furon, or Cable USA you have always known Dekoron Wire & Cable for its quality, customer service, and expertise in the manufacture of instrumentation cables.**

Dekoron Wire & Cable is the benchmark for cable manufacturing in the instrumentation industry and therefore considered the instrumentation cable expert.

### Product Innovator

Our dedication to instrumentation wire & cable has benefited the market with many advances. Technology to improve signal transmission, shielding, and custom designed cables have allowed Dekoron to bring to market products required to effectively and efficiently run plant operations.

### Manufacturing Excellence

The Dekoron cable manufacturing process is capable of producing the largest number of pairs and triads available in the industrial cable market. Dekoron's manufacturing facility and product distribution are strategically located to maintain the best response times in the industry.

### Corporate Alliance

Dekoron Corporate Alliance programs create a streamlined mechanism for purchasing wire & cable throughout your corporate network.

### Customer Service

Making the customer the center of our business is Dekoron's primary mission. We put the customer at the top of our horizontal organization structure, a structure so direct that there are only two decision points between the customer and Dekoron's president. All of our people are closer to the customer and shortened lines of communication assure quick response to every need.



# System Integrity depends on a quality cable...

The Marmon group has been very successful in promoting the tried and true 80/20 philosophy to each of its many companies. With this leadership, Dekoron has become even more focused in its niche market using this philosophy to become more important to its customers. Dekoron's corporate alliance programs improve communication, simplify the procurement process, and establish bench marks which provide an improved provider/client relationship.



## Refining & Petrochemical

Dekoron was born out of the need for critical signal requirements in harsh environments. Instrumentation cables were developed to meet the criteria for the different classified areas of these facilities. As a key supplier, Dekoron has weathered the economic ups and downs and has continued to be the leading instrumentation cable manufacturer for the refining and petrochemical industry.

## Power Generation

Power has been generated using many processes and Dekoron products have been used in all of these facilities. From Nuclear to Cogeneration to the latest combinations of fuel/coal, Dekoron has provided cables to meet the many variations in design and compounds used. Each facility has its specific needs, and Dekoron provides both standard and specialty cables to meet each of these applications.

Dekoron is dedicated to producing low voltage signal transmission cables for the industrial market. Instrumentation cables are a critical part of industrial control systems where signals are converted to usable information such as pressure, flow rate, position and temperature. It is essential that signals are clean and reliable.

A comprehensive inventory of cable commonly used in these segments is maintained to ensure quick turnaround and minimize downtime. Dekoron also inventories various conductors, shields, and other raw materials in order to manufacture special constructions and lengths based on customer specific needs. In many cases, homeruns and high pair count configurations are made to order in predetermined lengths eliminating splices, junctions, and cable waste.



### Alternative Fuels

Dekoron is currently working with the key players in process designs of new alternative fuel facilities. Based on our capabilities, experience, and strengths with similar industries, Dekoron has been specified to provide the cables for these new facilities.

Dekoron products have the capability to withstand many types of industrial environments. Examples of other industries where you can find the Dekoron product includes; Wastewater, Pharmaceutical, Pulp & Paper, Mining, Steel Mill and Mass Transportation.

### Additional Industries Served



# The Innovator in Instrumentation Cable...

In focusing on instrumentation and control applications, Dekoron has developed thousands of variations of instrument wire, thermocouple extension wire and control cables to meet customer requirements.

## Instrumentation Cables



## Thermocouple



1962

Electrical Signaling transmission technology (low voltage)

1967

Ripstrip Termination

1970

Protectopac Instrumentation Cable  
First Generation Circuit Integrity Cable

1972

Nuclear rated instrument cable (Containment Area)

1981

First Non-Black CPE Jacket

1982

Zero Halogen Thermoset

1992

Fieldbus (PLTC) – Technology & cable range continues to expand.

1995

CIC IEC and BS

When sourcing cable to transmit information between your sensors, analyzers, and control rooms, system integrity is important.

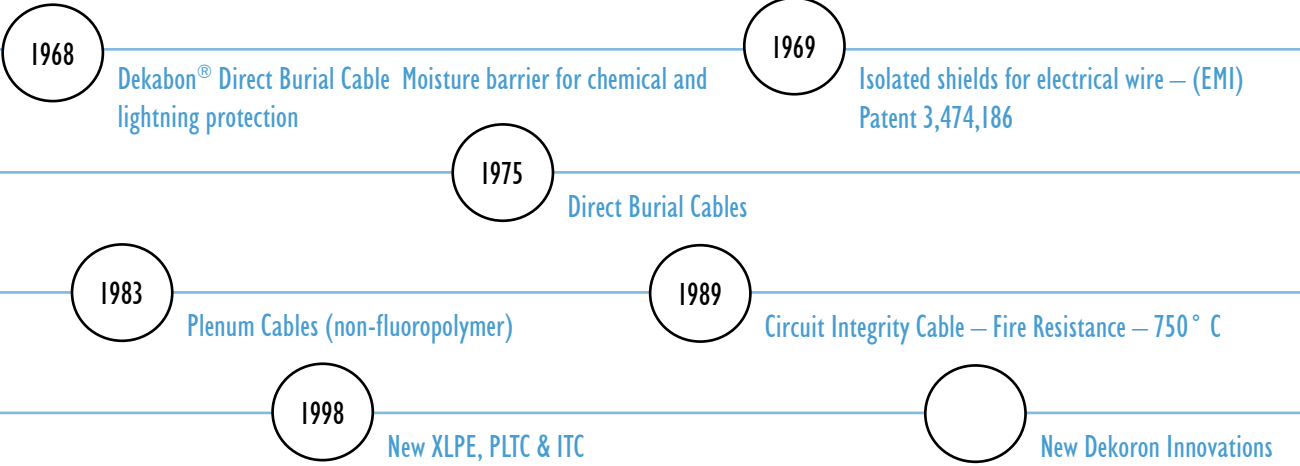
Many of Dekoron “firsts” in insulation, shielding and improved compounds protect cables from electronic noise and interference that could interrupt accurate information being transmitted throughout the plant.

Thermocouple extension cable is typically used in process plants to measure temperature. Dekoron brand Thermocouple extension cables utilize a solid alloy wire conductor in applications requiring highly precise temperature measurement and control.

### Control Cables



### Speciality Cables



As the customer requirement for control cables moves toward discrete signaling, the importance of Dekoron innovations in shielding, improved compounds, and composite constructions are recognized as a solution to end user needs.

By focusing on the Instrumentation market, Dekoron has the flexibility to react to customer issues and provide specialty cables to meet customer demands.

Fire Resistant  
Cold Weather (CSA, Arctic)  
Dual Armor

Circuit Integrity  
Fieldbus  
Low Smoke/Zero Halogen (LSZH)

# Product Capabilities

Cables with up to 100 conductors or conductor groups and continuous lengths of 10,000 feet (3,000 meters) are possible. All conductor groups can be shielded against electromagnetic interference by the use of proper shields and drains. Dekoron is capable of applying electromagnetic interference shields of aluminum-polyester tape or copper-polyester tape or metal braids.

- 2-100 pair / triad / conductor
- Individual shields / overall shields
- Aluminum and copper polyester shielding tape
- Isolated pair shields
- Maximum core diameter 2.3"

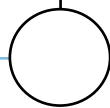
## Conductors

- Copper: 10-22 AWG / 6.0 – 0.5mm<sup>2</sup>
- Solid
- 7-Strand Concentric Class B
- 19-Strand Flexible
- Bare, Tinned and 27% Nickel
  
- Thermocouple extension alloys
- Solid/Stranded 16 – 20 AWG
- EX - Chromel / Constantan
- JX - Iron / Constantan
- KX – Chromel / Alumel
- SX - Copper / Copper-alloy II
- TX - Copper / Constantan
- ANSI MC 96.1 color code

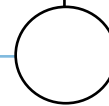
## Cable Insulation Materials

- Thermoplastic:
- PVC - Polyvinyl Chloride
- HDPE - High Density Polyethylene
- TPE - Thermoplastic Elastomer
- PVC / Nylon – Polyvinyl Chloride/ Nylon
  
- Thermoset:
- XLPE - Crosslinked Polyethylene
- Crosslinked Silicone Alloy
  
- All Industry Color Codes Available

### Conductor

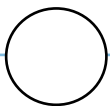


### Insulation



### Shielding

### Armor



### Jacket

For applications that require additional mechanical protection and resistance to flame spread, Dekoron offers several metallic armors applied over jacketed cable cores to protect the integrity of the inner cable components.

#### Dekabon Moisture/Chemical Barrier Cable

Consist of a copolymer coated aluminum tape applied to an inner cable and hermetically sealed by a heat melt adhesive and bonded to an outer jacket. Dekabon is applied longitudinally forming a smooth aluminum sheath sealed to itself providing excellent chemical, crush and vapor resistance and protection against moisture. Suitable for direct burial applications and abrasive backfilling. Paired with a drain wire, Dekabon acts as an electrostatic shield which provides protection against lightning.

#### Served Wire Armor (SWA)

Consist of spirally wrapped galvanized steel wires wound concentrically over the cable core. Served wire armor provides physical protection where cut-through resistance is necessary. Suitable for vertical drop installations such as mine shafts. Excellent longitudinal strength and ideal for long pulls. More flexible than cable armored with interlocked armor.



## Shielding

To assure “clean” and accurate signals back to the control room, shields and a 7-strand drain wire is applied to individual groupings and cable cores with a metal/polyester tape overlapped to provide 100% coverage.

Aluminum/Polyester  
Bronze 5mil  
Copper/Polyester  
Copper 5mil  
Metal Braiding

## Jacket Options

First and Second Jacket:

PVC – Polyvinyl Chloride

LDPE – Low Density Polyethylene

HDPE – High Density Polyethylene

NYL – Nylon

CPE – Chlorinated Polyethylene

TPE - Thermoplastic Elastomer

TPN – Thermoplastic Non-Halogen

CSPE – Hypalon

Colors:

Black – standard

Blue – designation of intrinsically safe system

ANSI – corresponding thermocouple extension type

Additional colors available

Jackets are printed with an easily read ID marking system and sequentially marked to validate quantity. Jackets can be easily removed with a nylon ripcord for field stripback and terminations.

## Interlock Armor

Metallic interlocked armor provides mechanical protection and crush resistance to the cable core. Armor is available in aluminum or galvanized steel. Benefits of aluminum are an overall lighter weight cable and better resistance to hazardous chemicals. Ideal for open tray installations in ordinary and hazardous environments.

## CWCA

Continuous Welded Corrugated Armor is UL listed, Type MC-HL and is approved for use in Class I, Division I hazardous locations. Impervious armor protects cable core from absorption of water, gas and corrosive elements. Factory assembled conduit cable system is suitable for installation indoors and outdoors, aerially, in conduit, cable tray or direct burial.

## Dual Armor

For additional protection, Dekabon cables can be combined with galvanized steel wire armor (SWA) or either galvanized or aluminum interlocked armor. When combined with armor, Dekabon offers superior cable protection. The Dekabon and SWA or Interlock combination provides superior chemical and moisture protection and physical damage protection.

# Using Dekoron's expertise to manufacture quality cable for the longest manufactured lengths available...

As specialists, Dekoron is able to stock a wide range of products to provide customers with timely and reliable deliveries as well as custom manufacture to meet specific needs. Dekoron's manufacturing lead time and the ability to respond to customer demands are unmatched in the industry. Our product inventory includes a wide range of standard 300V and 600V instrumentation cable plus some thermocouple extension cable to support stocking distributors and key customers.

## Manufacturing Excellence for a quality product... every time.

Raw Materials are sourced from a limited number of high quality, reliable and competitive material suppliers. The primary raw materials used are maintained in Dekoron inventory, or sourced through short-lead times and supplier stock programs.

All Dekoron instrument cable is subject to electrical inspection after twist, cabling, jacketing and armoring. The inspection stations are embedded into the material flow to reduce material handling and ensure timely

inspection by trained QA technicians who are on site whenever production is running. Additionally in-process testing is built into processes with extensive use of spark testers and real-time dimensional monitoring.

At Dekoron the operations, customer service, QA and engineering personnel are all centrally located on the manufacturing floor of the facility. This greatly improves communication between functions, the shop floor and with customers.

When you are talking to a customer service person at Dekoron you are talking to someone who is right in the middle of the most focused instrumentation cable plant in the world.



## Singles Extrusion

Premium compounds used for insulation are key to making high quality instrument cable. Dekoron wire is insulated with PVC, PVC/Nylon, XLPE and various other specialized insulation materials. Dekoron focuses on thoroughly training extruder operators, developing reliable processes in conjunction with material and equipment suppliers and robust preventative maintenance on both mechanical and control systems.



## Twist/Respool

The latest technology in twist/respool equipment is installed, well maintained, and operated by trained personnel to ensure the wire is not damaged during this critical process. Single insulated conductors are properly marked and twisted. Shielding tapes and drain wires are applied as needed.



## Cabling

Cabling combines the numbered pairs into a cable core, applying tapes, shields, communication and drain wires as needed. Dekoron has invested in state-of-the-art cabling equipment which controls the core diameter, roundness and tape application through tighter control of tension and traverse onto the take up reel. This new cabler installed has doubled the lengths that can be produced at Dekoron.



## Shielding

Individual pair shielding tapes are applied during the twist process to ensure a minimum of 25% overlap. Overall cable shielding tapes are applied during the cabling process with a minimum 25% overlap and held in place by a binder.



## Jacket Extrusion

Thermoplastic or thermoset materials are extruded over the cable core to provide a protective outer jacket. Jackets can be mixed to optimize flame retardance, chemical resistance, and low temperature performance.



## Armoring

Various armoring options are available including interlocking armor and served wire armor and continuous corrugated welded aluminum. Multiple armor layers can be supplied with a jacket layer between each armor layer.

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[www.dekoroncable.com](http://www.dekoroncable.com)

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