

The Overall Picture:

Integrally-molded connectors on cable assemblies are being used in increasingly wider applications by manufacturers whose product uses cord or cable assemblies.

The custom professional appearance, reliability and economy of connectors molded on the cable makes this type of assembly a logical choice over conventional methods.

The fact that a molded connector may be custom-shaped for economy, often permits a better product plus added economy, compared to conventional methods.

Although integrally-molded connectors lend themselves to high-volume production, short runs (100 pieces) are still practical due to our proprietary molding and tooling technology plus our selection of standard adjustable tooling.

We provide complete design and engineering services to assist in specifying molded cable and connectors.

As the manufacturer of all components involved in a molded cable assembly, we are able to exercise unified control of design, engineering and manufacture of all wire, cable, contacts, hardware, molding and tooling to produce truly professionals, quality molded-connector cables economically and promptly.

These quality ready-to-use cable assemblies, made to your specifications, delivered promptly, ease the load on your purchasing, supervision and production.

The Cable

National has a complete wire and cable mill for manufacturing all types of control cable and special-purpose electronic wire. We specialize in custom cable manufacture. These facilities allow us to furnish exactly the cable needed for your particular product, tailored to your own specifications.

Features: Special colors of outer plastic jacket; name or part number permanently embossed in surface of cable jacket; ultra flexible cable constructions; ultra low capacitance cables; special shielding techniques for low noise cable; engineering and design service for your special requirements.

Many standard cable constructions are carried in our warehouse where we stock over 300 different control cable types, in addition to our 100 million foot inventory of electronic hook up wires. These stocks, plus normal 2-shift factory operation, allow rapid supply of cable for molded cable assemblies.

The Connector

National's proprietary molding and tooling techniques allow us to create the connector directly on the cable by embedding cable, contacts and hardware in hot-injected plastic. Thus a conventional purchased connector is not used with consequent savings.

A connector may be only one pin molded to a leadwire or may have dozens of contacts molded onto large cable with embedded hardware. We mold on a wide selection of connectors using our standard contacts and hardware. Some common types are:

- Male and female plugs on cable
- Male and female contacts on leadwires
- Medical electrodes
- Short plugs
- Molded leg breakouts on cables
- Molded yokes on cables
- Y and Y molded splices
- Test probes and leads

The Tools

We invite your inquiries on our standard or special connector styles. Our engineering staff will be pleased to discuss your particular requirements.

The tools for high-speed injection molding are precision machines in themselves, having high-accuracy fits on internal and external portions.

By proprietary molding and tool-making techniques on our special machinery, we are able to tool cable-connector designs at greatly reduced cost compared to conventional methods.

These great savings are passed on to the customer in the form of lower unit prices.

A wide variety of standard cable-connector tools are available for producing your assembly with no tooling costs. Often our mold specialists can adjust our non-standard tools for your special needs with only a minor engineering change.

Due to their proprietary nature, tools are generally retained by us when they may be used on other work by adjustments. Where the customer must have privacy of use, there is a nominal engineering change.

How to get the Ball Rolling

1. Specify the type of cable
 - a. number of conductors and wire gauge
 - b. voltage ratings, shielding

We carry many standard cables, or will make cable to your exact needs.

2. Specify connector your assembly must mate
 - a. number of contacts
 - b. shell style or type -- manufacturer's part number desirable
3. Specify quantity, cable length and delivery rate you'll need
4. Specify colored or special marking you prefer
 - a. your name or part number on cable sheath
 - b. your name or part number on connectors
 - c. cable or connector color

Technical Notes

Connectors with round shells may have several clocking angles and keyway positions, allowing simple polarization of similar plugs. right-angles cable exit direction may also be controlled by position of keyway. Integrally-molded plastic strain-relief tube may be included on any connector.

Raised markings may be included on connector. Bold Gothic type is normally used. Trademarks may also be molded-in. Permanent indent-marking is available on cable sheath.

Threaded molded-in inserts for screws, external fittings are available, also alligator flat-jaw clamps and chain loops. Consult our engineering for details of accessories and mounting.

Special-purpose exterior surface shapes are available, such as flats, inset or raised areas, slots, grooves, keys, through or blind holes, finger grips, knurled or patterned areas. Consult our design service for suggestions and innovations.