



Technical Information: Molded-On Concept

Molded-On is the term we at A P Products use to describe the integration of cable and contact into one-piece, inseparable cable assemblies by means of injection molding. The process, itself, is unique in the industry, and so are the resulting functional and economic advantages in interconnection systems.

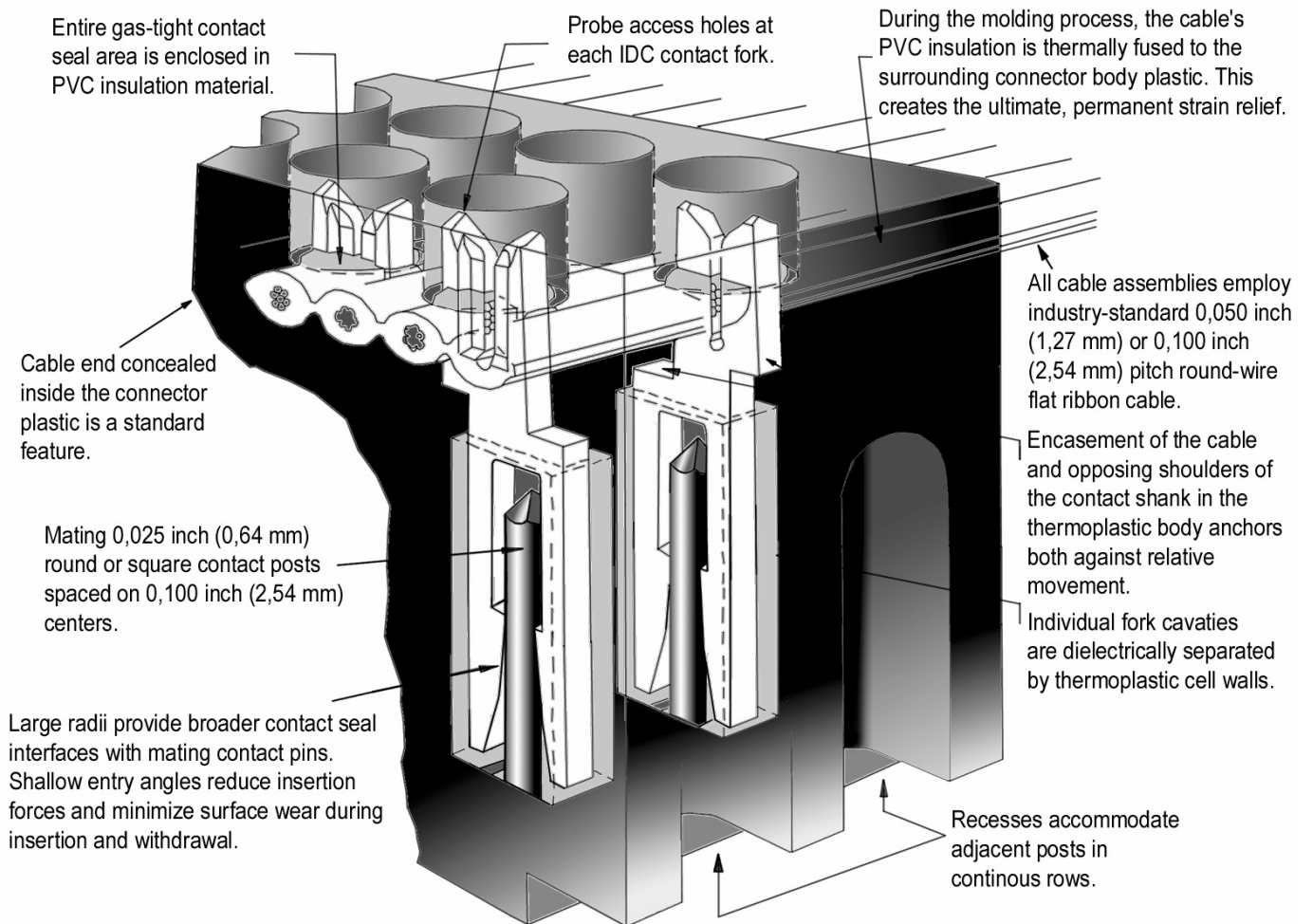
The most obvious advantage of "molded-on" cable assemblies is that they are one piece and therefore inseparable. There are no individual components to come apart, lose, stock, assemble, test or scrap. They are factory tested and ready to install when shipped.

Integral Molding

Flat ribbon cable conductors are IDC mass terminated to preformed contacts and the entire terminated cable end is enclosed in a mold configured as a connector. Hot, molten polyester thermoplastic is then injected into the connector mold under intense pressure. The pressurized molten plastic penetrates and fills all mold cavity space while simultaneously engulfing the shouldered portion of the contacts, the cable cut off end, and the insulated lead-in portion of the cable itself. The PVC insulation is thermally fused to the polyester plastic of the connector body.

The finished part, now an integral, single-end assembly, cools and is ejected from the mold. For double-ended assemblies, the opposite cable end also is IDC mass terminated to contacts and molded into a connector body.

One-piece daisy chain assemblies are produced by using through-cable molds that permit any connector body style to be molded around IDC mass terminated contacts anywhere on the cable. Special configuration, one-piece assemblies incorporating any number of connectors, with the same or different body styles and





sizes, are easily produced to customer specifications with our unique „molded-on“ process.

Structural and Electrical

A polyester thermoplastic was selected for the connector body material because of inherent mechanical strength, dielectric strength, flame retardants and moldability properties.

The advantages for one-piece cable assemblies (listed in the picture) are numerous and distinctive. These benefits derive exclusively from the „molded-on“ concept, and are unachievable with other manufacturers' cable assemblies consisting of many separate plastic and metal parts that rely on mechanical means of attachment to the cable.

Unlike multi-piece mechanical assemblies, A P Products' one-piece cable assemblies have no air space between adjacent IDC contacts. The contacts and cable are embedded in a solid block of plastic, providing significantly improved insulation resistance and higher breakdown voltage.

Because the body plastic encases the shouldered portion of the contact shank as well as the cable, it functions as a unifying medium that anchors both against relative motion. This important advantage is markedly absent in assembled connectors where the contacts are only loosely retained by mechanical means.

Another unique advantage of „molded-on“ cable assemblies is that they need no added-on strain relief as do mechanically joined assemblies. Thermal fusing of the cable to the connector plastic creates the ultimate strain relief that is unachievable by simply clamping. The „molded-on“ strain relief also permits a low profile since bulky wrap-around covers are unnecessary.

The constant overriding consideration in the design of each style of A P Products' "molded-on" connector is that the engineering design adheres to accepted industry-standard interconnection techniques for plug/unplug and solder-in applications. The resulting engineered one-piece assemblies interface with all industry-standard interconnections with ease and precision and may be used as direct replacements for mechanically joined connector/cable assemblies.

The physical configuration of each connector style is dimensioned to mate precisely at every critical OEM interconnection system interface; electrical contacts; PC board contact and mounting hole patterns; polarity keys, slots and tabs; lock/eject latches and where necessary, external envelope clearance dimensions. However, in noncritical areas, such as those portions of the connector bodies that do not interface with OEM system devices, space-saving low

profiles and generally more compact housing are characteristic of A P Products' connector designs.

These features are made possible primarily because the molding process permits elimination of unreliable mechanical covers and separate bulky strain reliefs.



All connectors are recognized under the Component Program of U.L., Inc. (File number and yellow card available.)

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