OUR EXPERTISE : Mastering technologies

BONDING VS OVERMOLDING

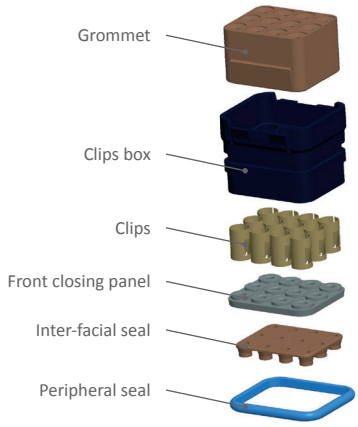
Comparison of 2 generations of SIM series as an example

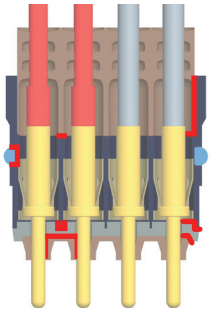
- Traditional concept requiring multiple operations of assembly
- Each step is a different process
  (plasma, primary, gluing, bonding, curing)
  = Multiple causes for potential problems

Traditional gluing method and associated factors of risks

Humidity ingress

Arcing





- Molding problems
- Polishing problems
- Plasma problems
- Primary problems
- Gluing problems

(Migration of glue into cavities under pressure during process may lead to cavities partially filled)

- Polymerisation of gluing

Risk of humidity ingress leading to arcing

The solution of Amphenol Air LB : **OVERMOLDING**

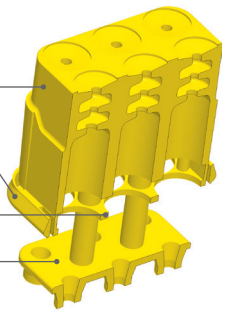
Second to none sealing

Best of class dielectric

1

Grommet
+
Peripheral seal
+
Intecavity seal
+
Interfacial seal
=

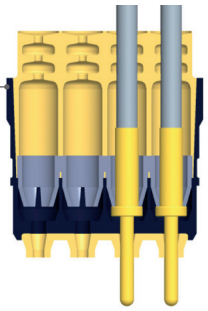
1 overmolded element in 1 single operation



2

Retention clips box
+
Integrated front panel
=

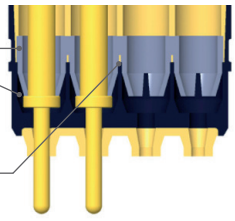
1 MONOBLOCK part



3

Ultrasonic welding of plastic clips onto retention clips box

Silicone rubber spread
(Intercavity seal



1 overmolded element
+
1 monoblock element
+
Plastic clips

END RESULT :
Optimized design for second to none performances

Key features	Second to none performances
Full control of processes Simplified manufacturing processes	Most of risks associated to production such as molding, polishing, plasma, primary, gluing, compression and curring become non existent
1 monobloc element	No risk of disbonding under mechanical stress Possible cavity fill during gluing process becomes irrelevant
1 overmolded process No weak point No layers of glue No creepage No added-after peripheral seal	No risk of cavity humidity ingress No risk of arcing Optimum sealing of module inside connector shell Peripheral seal overmolded from inside/out : up to 75 cycles guaranteed
Silicon rubber spread	No sealing problem between cavities : no creepage "Full material" overall performances : 1 shot overmolding Improved dielectric performances : 2 to 3 times superior to current standards
Use of sealing plugs optional	Time saving during cable harness wiring Cost saving Quick implementation