Permite C is manufactured by Southern Dental Industries (SDI) as a high-copper, non-gamma 2, admixed alloy. The alloy composition is 56.0 percent silver, 27.9 percent tin, 15.4 percent copper, 0.5 percent indium, and 0.2 percent zinc. The indium content should not be confused with alloys such as Indisperse (Indisperse Distributing Company) that contain indium consisting of five percent or greater. Permite C requires 47.9 percent mercury for optimum amalgamation. SDI claims that Permite C possesses excellent marginal sealing capability which results in zero postoperative sensitivity. The formulation of Permite C is purported to provide high initial and final compressive strengths to give protection from early fracture. Physical properties of Permite C are reported by the manufacturer to include a 60 minute compressive strength of 260 MPa (38,000 psi) which is stronger than Caulk/Dentsply's claim for Dispersalloy (152 MPa). Also, SDI reports Permite C's 60 minute diametral tensile strength to be 28 MPa (4000 psi) as compared to Dispersalloy (18 MPa). Permite C is reported to have a positive four micron/cm 24-hour dimension change as compared to Dispersalloy's negative five micron change.

SDI offers Permite C with different delivery designs: alloy powder-mercury, alloy tablet-mercury, standard pre-dosed capsules, and a unique direct placement capsule delivery system. The direct placement amalgam capsule is an innovative design that allows the direct injection of amalgam into the preparation, thereby eliminating amalgam carrier use. This system, according to SDI, features both a substantial reduction in procedure time and reduced mercury vapor exposure during amalgam placement. Information from SDI reveals that the direct placement capsules cannot be used with all amalgamators. The evaluation of Permite C direct placement capsules with an SDI amalgamator will be completed in the future. Standard capsules are available in one-, two-, three-, and five-spill sizes. All Permite C capsule designs are hand activated; they do not require a separate activation device. Permite C is available in varied setting times. Standard capsules are available in fast set (eight minutes), regular set (nine minutes), slow set (ten minutes), and extra carving time (12 minutes).

Manufacturer:
Southern Dental Industries, Inc.
246 First Street, Suite 204
San Francisco, CA 94105
(800) 228-5166
(415) 975-8060
(415) 975-8065 FAX

Suggested Retail Price:
(3-spill)
$53.50 50-capsule pack
$481.55 500-capsule bulk

Government Cost:
(3-spill)
$27.29 50-capsule pack
$245.68 500-capsule bulk

ADVANTAGES:
+ Favorable physical properties as compared to other available dispersed phase alloys.
+ Straightforward and efficient packaging design.
+ Instructions are legible and complete.
+ Easy to use with existing clinical techniques.
+ Condensation properties comparable to other dispersed phase alloys.
+ Capsules are easy to activate and open.
+ Published sources report three-year clinical performance comparable to other alloys.
+ Published sources report significantly less microleakage than other alloys.
+ No reports of post-operative sensitivity in this evaluation.
+ Available in three setting times (fast, regular, and slow set).
+ Available in four spill sizes (1, 2, 3, and 5).
+ Introductory packs are available which provide an assortment of all spill sizes.
+ 50-capsule packages are less expensive than other alloys.
+ 500-capsule bulk package price is comparable to that of other alloys.

DISADVANTAGES:
- May display grainy texture during carving.
- Capsules difficult to place in Varimix III amalgamator.

SUMMARY AND CONCLUSIONS:
Permite C is a dispersed phase amalgam alloy marketed by Southern Dental Industries that has been recently introduced in the United States. Clinical users in this evaluation appreciated Permite C’s clinical handling features. Evaluators reported that the capsules were easy to activate and open. The alloy demonstrated clinical condensation allowing establishment of contours and interproximal contacts comparable to other dispersed phase alloys. The amalgam also demonstrated good carving characteristics. Published sources indicate that Permite C demonstrates less microleakage than other alloys, however no difference was found during the DIS evaluation. Permite C has been evaluated clinically by outside researchers and shown to be comparable to other alloys. Permite C is available in three setting times and four spill sizes. Sixty percent of the evaluators rated Permite C as above average and fifty percent recommended it for general use in their clinics. Permite C is rated Acceptable for use by the federal dental services.