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Parachute Industry Association Publications
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Lead Parachute Seals Alternatives

The potential negative environmental and health effects of using lead to apply the security seal on emergency parachutes were recently brought to the attention of the Parachute Industry Association. The matter was assigned for consideration to the PIA Rigging Committee for review and to explore possible alternatives.

Use of lead seals has been banned in some countries already. Malleable plastic slugs of similar design and applied in the same manner are readily available and in wide use outside of the United States. Committee members obtained samples for experimental purposes and found little or no significant disadvantages in their use or function compared to using lead seals. The Committee determined that the use of plastic seals would not interfere with the function of the system in any manner that would differentiate them from lead seals.

The Committee also explored the use of adhesive fortified paper seals (e.g. Tyvek), also in common use in other countries. Adhesive paper seals are applied by simply squeezing them between the thumb and forefinger. A rigger would still ostensibly meet the requirement in 14 CFR 65.133: "Each certificated parachute rigger must have a seal with an identifying mark [a paper seal the three alphanumeric characters issued with the initial rigger certificate] prescribed by the Administrator, and a seal press [thumb and forefinger]."

Lead, plastic, and paper seals are all used in conjunction with the same 4.75-pound cotton break thread currently specified by most US manufacturers' instructions, as well as instructions in Poynter's Parachute Manual, and the FAA Parachute Rigger Handbook. The tying knot can be hidden and sealed inside the seal using all three methods considered: lead, plastic, and paper.

If approved by a parachute container manufacturer, both plastic and paper seals would readily meet further requirements in 14 CFR 65.133: "After packing a parachute [the rigger] shall seal the pack with his seal in accordance with the manufacturer's recommendation for that type of parachute." The Committee has requested all known parachute container manufacturers to review their

recommendations for sealing the pack, consider alternatives to lead, and update their packing instructions accordingly.

The Parachute Industry Association sees no impediment to immediate implementation of the use of the alternative means of sealing auxiliary or emergency parachutes explored by the Rigging Committee.

Respectfully,

A handwritten signature in cursive script that reads "Kirk Smith".

Kirk Smith
Rigging Committee Chair