



## ABATRON, INC.

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**ABOWELD/ABOCURE 7812-2**

TDS 781202

### **UNDERWATER & COLD-WEATHER STRUCTURAL & DIELECTRIC ADHESIVE PASTE**

2-component thixotropic epoxy compound for dry, wet & cold applications.

#### **SUGGESTED USES:**

**STRUCTURAL: PATCHING, BONDING, RESURFACING, FILLING**, on virtually all rigid surfaces like concrete, masonry, metal, ceramics, glass, fiberglass, in factories, in industrial, construction and marine applications, under water and under snow, as well as in normal conditions. It can be used alone or mixed with sand, fabric, fibers, steel wool and other fillers to repair, bond, resurface or fill above and below water, in warm or freezing weather for the widest range of applications.

**DIELECTRIC: EMBEDDING, ENCAPSULATING, INSULATING, PATCHING, BONDING** of the greatest variety of electric/electronic components for exterior and interior exposure, corrosive and other problem environments.

#### **CHARACTERISTICS:**

ABOWELD: (A) Light-gray thixotropic resin.  
ABOCURE: (B) Light-gray thixotropic coreactant.  
TOTAL SOLIDS: 100% by weight or volume.  
LBS/GALLON: ABOWELD: 11.8; ABOCURE: 11.2.  
SHELF-LIFE: at least one year.  
VISCOSITY: thixotropic, no-slump paste.  
RATIOS: 1/1 A/B, parts by weight or volume.  
POT LIFE: 12-14 minutes.  
INDUCTION PERIOD: not necessary.  
HARDENING: 0.1-4 hrs. (depending on temp.).  
HARDENING TEMPERATURE: room temperature (70-80°F) or down to freezing temperatures.  
Heat accelerates the process.

THERMAL DEGRADATION, weight loss after:  
100 hrs @ 160°C: 1.1%.  
500 " " " " : 2.2%.  
200 " " 210°C: 4.9%.  
100 " " 260°C: Failure.

WEIGHT CHANGE after 120 days in:  
30% SULFURIC ACID: 2.3%.  
ACETONE: 25.9%.  
50% SODIUM HYDROXIDE: 0.1%.  
JP 4 FUEL: 0.25%.  
DISTILLED WATER: 0.8%

#### **TYPICAL PROPERTIES**

HARDNESS: >80 Shore D.  
DEFLECTION TEMPERATURE: 70°C (158°F).  
FLEXURAL STRENGTH, psi: 8300.  
" MODULUS, x105: 2.1  
COMPRESSIVE STRENGTH, psi: 13400.  
" MODULUS, x105: 2.7.  
TENSILE STRENGTH, psi: 5100.  
ULTIMATE ELONGATION: 3.9%.  
IZOD IMPACT, notched: 0.4.

#### **SPECIAL CHARACTERISTICS**

- LIGHTER CONSISTENCY is not just for easy cold mixing, but for the blending with sand, fibers, steel-wool, cloth, bags and other help skindivers prefer.
- FAST REACTION SPEED compensates for freezing weather slow reactivity, as needed in most underwater applications.
- The INDUCTION PERIOD normal epoxies require is eliminated to facilitate proper reaction in adverse conditions.
- Where needed, A PRESSURE-RELIEF PIPE SECTION can be inserted through a 7812-2 patch to keep water flowing while the 6712-2 hardens. Later, the pipe can be capped, or stuffed with a plug + 7812-2, etc.

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## **SURFACE PREPARATION:**

Surfaces must be thoroughly cleaned and freed of loose materials like dust, sand, mud, slime. Washing, degreasing, sandblasting or other means or combination of means suitable with the kind of contamination involved should be used to insure good adhesion. Previous coatings can be accepted and coated if tests (by troweling 7812-2 on) show good adhesion and compatibility.

## **APPLICATION:**

Mix Equal parts of ABOWELD and ABOCURE, by weight or volume. The mixing ratios of ABOWELD and ABOCURE should be accurate within 1-3%.

Thorough mixing is necessary, or "soft spots" and poor hardening result.

**POT LIFE** is the time the resin/hardener blend remains fluid and workable, in the mixing container, before hardening. It is based on 100 gms mixes. Larger bulks harden faster. Thin layers harden slower. HEAT accelerates hardening. COLD retards the reaction.

An **INDUCTION PERIOD** (time the A/B mix of standard epoxies must dwell in the mixing container, before application, in order to prevent "oily" hardening) is not necessary with the 7812-2 system.

The material can be applied and spread with a trowel, scraper, spatula, mostly bladed tools, or with glove-protected hands.

For filling or patching, the 7812-2 system can be used as is or blended with sand, aggregate, metal or dielectric powders, or other fillers appropriate for the application.

Blends of the 7812-2 and powders or aggregates are mostly not sagging. With other epoxies, such blend would be too runny or sagging for vertical surfaces and critical applications.

The special consistency of the 7812-2 system is designed to facilitate the use of retaining means like cloth, "steel wool", fabric bags and others, as preferred for underwater applications.

If a primer is desirable (surfaces difficult to wet), PRIMKOTE 8006-1 is the most versatile primer for dry applications.

**Coverage:** Never less than 231 cubic inches per gallon, because the material has no volatiles. No other material can cover more.

**Shelf life:** at least one year.

## **VARIATIONS:**

ABOWELD/ABOCURE 8005-4: FLEXIBLE PUTTY FOR UNDERWATER & COLD-WEATHER APPLICATIONS, all-purpose indoor & outdoor. 1/1 ratio, 30 minutes pot life, white/black.

ABOWELD/ABOCURE 8305-5: HEAVIER & STIFFER PUTTY for more conventional applications in damp underground areas. 1/1 ratio, 1 hour pot life, white/black.

ABOWELD 55-22/ABOCURE 8101-5: 5 MINUTE COLD-WEATHER VERSION. It also hardens in sub-freezing weather. 1/1 ratio, 5-minute pot life, dark-gray.

ABOWELD 7812-2/ABOCURE 50-17: 155°C (310° F) DEFLECTION TEMPERATURE. Very high thermal, chemical resistance and hardness. 100/16 ratio, 5-8 hour pot life. Needs oven cure.

The 7812-2 system can be also supplied in black/white (gray mix) version and other colors.

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The above information is the result of accurate laboratory and field tests. However, no guarantee is offered, as uses and applications are beyond our control. Users are urged to test the above data in their own conditions.