

FLAMEPROOFING SOLUTIONS

Flameproofing, when properly done, will retard or prevent the spread of fire over otherwise combustible material, thereby providing a reasonable level of protection against the hazards of rapid propagation of fire in an occupied area. The chemical solutions explained below may be used to "flameproof" the indicated materials; their proper application will make the materials to which they are applied fire resistant, but will **not** prevent from charring or being destroyed by fire.

Vegetable Material (Leaves, Grass, Spanish Moss)

Must be **fresh** for flameproofing to work; dried material will not absorb!

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| Fertilizer grade ammonium sulfate | one pound |
| Water | one gallon |

Dissolve the chemical in the water in the prescribed ratio. Apply by soaking, dipping, or spraying (when spraying, material should be wet, but not soaked). To test, after thorough drying, hold a lighted match one-half inch below a small sample of the material for a minimum of fifteen seconds. If the flame does not travel over the surface of the material and goes out when the heat is removed from the material, it can be considered reasonably safe.

Paper Goods

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| Boric acid crystals | four ounces |
| Borax | four ounces |
| Fertilizer grade ammonium sulfate | twelve ounces |
| Warm water | one gallon |

Dissolve the chemicals in the water in the prescribed ratio. Apply by dipping or spraying (as described under Vegetable Material). Test for effectiveness (as explained under Vegetable Material).

Washable Fabrics

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| Boric acid crystals | four ounces |
| Borax | nine ounces |
| Warm water | one gallon |

Dissolve the chemicals in the water in the prescribed ratio. Apply by soaking. Air-dry the material, using a horizontal drying area if possible. **Do not** dry in a gas or electric clothes dryer, as this may cause discoloration of the fabric. Application may be done at the same time as starching. New fabric must be washed to remove sizing before flameproofing treatment is begun. Test for effectiveness (as explained under Vegetable Material).

Caution: This treatment *must* be repeated following each washing, as this solution is water-soluble.

Sources for Flameproofing Supplies

Borax and boric acid are available at grocery and variety/discount stores. Ammonium sulfate is available at some garden supply outlets.

A commercial preparation called *Waterglass* may be purchased for use in flameproofing cardboard, paper, and muslin. This is applied in light coats with a brush, and dries to a hard glossy finish. It may cause some stiffening of the materials when dry.

UL-listed latex-based fire-retardant paints are available and can be obtained locally in popular colors. These can be used to protect wood, cardboard, and other similar materials effectively. **Caution:** Fire retardant paints *must* be applied in strict accordance with manufacturer's instructions; special attention must be paid to coverage rates. Flammable paints may not be used.

Commercially prepared flameproofing solutions for canvas, paper, and similar materials can be obtained from firms in Oklahoma City and Tulsa. Needs for paints and commercial solutions should be anticipated well in advance of intended use, as the materials may have to be ordered.

Additional information may be obtained from the OU Fire Marshal at fire@ou.edu.