

or erect a shelter; how to find comfort in a sleeping bag; the names of flowers, their structure, their odors, and how they grow. The names of birds, their flight, their songs, their eggs and young, their virtues and their vices. How the earth is made, its hills and valleys, its rocks and soil. Streams, a trickle on a rock face high on a cliff, or a Valley of a Thousand Falls; a cool drink from a

spring, a hot face washed in a tiny brook, or a tingling bath in a mountain stream or glacial pool. Fire, for a cup of tea, or a full meal at the end of day, a fire for warming, or a big campfire with tales and song, and even the dread forest fire. Scenes, big, little, at all angles and all distances, with snow, or the greens of spring climbing uphill, the great flower beds of

summer, evergreen forests, glaciers, ice in chimneys, the colors of fall; and clouds, all kinds, never two alike, never a sky the same; and pictures, with their memories. Last, and most important, companionship, all sorts, cheerful or glum, bright or dull, active or lazy, skillful or clumsy, bold or timid. Of all such is the art and pleasure of walking.

Resin-and-Casein Water Paints

WITH AUTOMOBILE TRAVEL curtailed and public transportation badly overcrowded, and various means of recreation made less available to everyone, many people today are finding satisfaction in doing things to make their homes more attractive. There has been a marked increase in interest in wall decoration, since wall surfaces are among the most conspicuous elements of the home.

Removing and applying wallpaper is a time-consuming job if it is to be done by the householder, and paperhangers to do the work may not be available. One answer to the problem of refinishing walls is the use of one of the popular cold-water paints, and a number of such paints for interior finish have been very heavily advertised in recent months.

These paints are not the same as the casein paints which became increasingly popular after their use in the Century of Progress buildings at the World's Fair in 1933. In the newer product synthetic resins are employed to improve both the washability and the ease of application. Some of the new paints contain little or

none of the casein that was the basis of the earlier washable cold-water paints.

Those who are considering using one of the new water-mixed paints should carefully study their own particular problem to be certain that paints of this type are actually suited to the particular job. It must be conceded that wall surfaces covered with water paints have a more pleasing appearance to most people than surfaces with an oil paint coating. The uniform matt surface and the absence of bright areas or reflected glare from shiny or semi-shiny zones is more restful to the eyes and attractive in other ways.

Water paints are relatively easy for the amateur painter to apply, either with a brush, or with the roller sold by the manufacturers for this purpose. There is also an absence of the characteristic painty odor, although water paints do have an odor which to some people may be as objectionable as that of oil paints. This odor usually disappears or becomes quite faint, however, in about 24 hours.

For wallpaper that is firmly adherent and for surfaces that

have been previously painted with water paints except calamine, or for walls or ceilings of plaster or fiberboard not previously painted, these new water paints can be recommended. They may also be used successfully in attics and on dry wall surfaces of concrete or brickwork. When the paint is to be used over wallpaper, it is important to inspect the whole area closely to make sure that the wallpaper is everywhere firmly attached to the wall. Any places where the wallpaper appears not to be firmly adherent should be carefully pulled away from the wall, pasted down and allowed to dry fully before attempting to paint over it.

The average reader of advertising of these new water paints is very likely to assume that they serve all purposes for interior painting, for the claims tend to give this impression and say the products may be applied directly over wallpaper, painted walls, plywood walls, wallboard, fireplaces, brick interiors, cement, and basement walls. Actually these paints have a number of important disadvantages, none of which, of course, is mentioned in the

advertising or stressed in the labelling of the packages. One important application which has attracted many to the resin paints is that they can be applied directly over wallpaper and are asserted to cover its design or pattern completely in one coat. It is true the paints can be applied directly over wallpaper, *provided that the paper is firmly adherent everywhere*, but wallpaper thus treated becomes resistant to water, and if it is later to be removed it may very likely be necessary to use professional steaming equipment for the job. Not all colors of water paints will hide all wallpaper designs with the one coat which the manufacturers of *Kem-Tone* and *Resintone* claim will cover properly when their product is used.

Although water paints have been applied over previous coatings of standard wall paints using a linseed oil or similar vehicle, with results apparently successful at the time of painting, chipping or flaking of paint have often followed, leaving a difficult surface to deal with for any subsequent painting. Authorities on paints have long recognized that any paint will wear better if it is applied over a paint of similar chemical and physical characteristics, and the best and safest practice is to use an oil paint over a previous coating of oil paint. This is an important point, yet one that is given little consideration by both consumers and the average painter. It applies both to paints for interior use and to paints for out-of-doors use.

The new resin-and-casein paints should not be applied over calcimine, which contains glue and is softened by water or by any material mixed in

water. They are likewise not recommended for painting smooth woodwork, such as doors, trim, or window sash, which are touched by the hands frequently. Perspiration and smudges from grimy or greasy hands cannot be easily washed off, as they penetrate water paint films too deeply. For finishing of woodwork in such locations, a good quality oil paint or enamel is much better, for it can be successfully and easily washed and rewashed, and will resist encroachment of dirt into the coating. This resistance to dirt is especially characteristic of glossy oil paints, though semi-gloss and even flat oil paints stand washing much better than any water paints.

Another class of surfaces on which these paints must not be used is in basements or in rooms which are damp (such as a bathroom or kitchen), for the molds which will attack paints in such localities will not only damage and disfigure the coating, but may give off an objectionable odor.

Ease of Application

Although the resin-and-casein paints can be applied with a brush, dealers advise the use of a roller made especially for this type of paint. The rollers are about seven inches wide and consist of a pad of a coarse felt or carpet material on a sponge rubber base fastened to a wooden roller. The pad can be washed and the roll used again. While the life of the roll is short, its use has advantages for some types of work, especially if a good brush is not at hand, or obtainable at a reasonable price at this time.

The rollers are especially helpful in painting ceilings. The

paint when mixed as directed is so thin that if a brush is used over the head by a person not expert in painting with a brush, the paint will run down the painter's arms like water. With the roller, this does not occur, and it is not difficult to get an even, "level" coat. (Immediately after the painting is done with use of the roller, there is a stippled effect, but this disappears, or nearly so, as the paint dries.) One consultant, however, rates the roller as only a wartime substitute for a good brush and believes that for most persons, even comparative amateurs, brushes which are easier to use and faster than roller devices will continue to be used for good painting.

Though the roller can be used, if desired, for the greater part of the painting, some brush work will be necessary at the top region of the walls and edges of the ceiling, also around doors and windows, where a narrow "safety strip" must be left.

The principal objection to the roller is the seam in the fiber cover. After some use, the nap wears off this seam which is slightly raised and leaves a series of marks along the wall. The life of the roller, which is rather crudely and imperfectly made, is probably only sufficient to paint one average size room, for when used a second time, the nap will have been compressed, and it will not do so good a job as when new. A roller with a seamless covering of better grade would be a great improvement over the type now sold. Some of the rollers now appearing on the market are covered with carpeting and have a spiral seam, which should overcome the difficulties referred to.

It is important to remember

that although spatters of these water paints may be wiped off with water or soapsuds, this must be done before the paint has "set." Resin-and-casein paints are water-resistant when dry, and it is difficult to remove them from woodwork, brushes, rollers, containers, or other surfaces then.

Washability

The resin-and-casein paint manufacturers all claim that their products are washable. One says "just as washable as any good flat wall paint," another "readily washable," another just "washable." Both *Kem-Tone* and *Sero-Tone* recommend the use of mild soap and water.

Laboratory tests by C I showed that all three of the paints tested were inferior in respect to washability compared to an oil paint of the flat or non-glossy type. The paints were marked by a soft pencil and also with a light daub of machine oil. Thereafter eleven very limited and brief washings were carried out according to a standard routine. On the oil paint the washing removed the pencil marks and an oil spot completely. With a three of the resin-and-casein paints, the pencil mark was still visible after 15 washings, although the paints themselves had worn away sufficiently with that number of washings to allow the undercoat to show.

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through, as did not occur with the oil paint. With *Wards Resintone*, removal of the oil spot was accomplished only when the paint was removed too. With *Kem-Tone* the spot was removed without apparent damage to the paint. With *Sero-Tone*, the spot was still plainly visible after the fifteenth washing, and the paint itself was in poor condition.

Relative Economy

There is, of course, a difference in relative costs if two coats of oil paint are necessary for a particular job. In considering costs, it must be remembered that two coats of the resin-and-casein paints, mixed and applied according to directions, will, in spite of advertising claims, often be needed, as one coat will not cover some patterns or surfaces satisfactorily. In a trial made, for example, by CR, one coat of *Kem-Tone*, mixed and used according to directions, failed to cover a red-and-white striped wallpaper satisfactorily. It also failed to cover the border satisfactorily when a sidewall and border were being painted. The material cost per square foot per coat is approximately twice as much for water paint as for good quality oil paint. However, if the job is one that could be done with one coat of water paint, the cost of the water paint would be about the same as the cost for two coats of a

good oil paint.

Resin-and-Casein Paints

B. Intermediate

Sero-Tone (Sears-Roebuck's Cat. No. 30—04013, etc.) 69c for 1 qt.; \$2.49 for 1 gal. 1 gal. claimed to cover 600 to 800 sq. ft., but in actual use found to give approximately the same coverage as *Kem-Tone*. (Nature of surface not specified, but doubtless a smooth, non-absorbent surface is meant.) Performance of *Sero-Tone* as to washability judged least satisfactory of the three paints studied. 2

Wards Washable Resintone (Montgomery Ward's Cat. No. 75—2725, etc.) 77c plus postage for 1 qt.; \$2.59 plus postage for 1 gal. 1 gal. claimed to cover 700 sq. ft. on smooth surfaces, 200 sq. ft. on rough porous surfaces. In actual use was found to give about 20% larger area coverage than *Kem-Tone* and *Sero-Tone*. Judged intermediate in washability between *Kem-Tone* and *Sero-Tone*. 2

Kem-Tone (The Sherwin-Williams Co., Cleveland, Ohio) 98c for 1 qt.; \$2.98 for 1 gal. Coverage figures were not given on the can or in the literature, but inquiry by letter discloses claim for *Kem-Tone* of a coverage ranging from 300 to 400 sq. ft. (equivalent to a material cost of 75 to 99c per 100 sq. ft.), depending upon the porosity of the surface over which it is applied and the method of application. This was found to be approximately correct in an actual use test. This paint gave the best performance of the three in washability. On present information, *Kem-Tone* would appear to be the best of the three paints studied. For use on previously unpainted walls or ceilings of plaster, fiberboard, or wallpaper (provided that the paper is firmly adherent everywhere) or for such surfaces previously decorated with water paints, *Kem-Tone* would probably merit an A rating. 3

Frozen Pipes Involve a Real Hazard

A HAZARD of a very unexpected and often quite disastrous sort exists when lighting a fire in the kitchen stove if the hot-water front (also known when located toward the back of the stove as a

hot-water back) is frozen, for a very serious explosion capable of wrecking the stove and the room can occur. Another precaution that should be taken

with plumbing in cold weather is not to draw water from a faucet or piping connected to a hot-water boiler if there is any danger that the hot-water pipes are frozen, for the result may be to collapse the boiler.