TESTS FOR MORTAR.

Some one writes to The Builder to ask, what practical test can be applied to mortar to see whether the contractor has put in too much sand, and whether he has used sharp sand. As this is a question which probably occurs to a good many young architects, the answer to it is of some importance. The Builder gives two methods of making the test. One is to have a thin section of a piece of the hardest mortar cut, and examined by polarized light through a microscope, which will show the shape of the grains, as well as their proportion to the mass. The other method is to dissolve some of the mortar in hydrochloric acid, which will attack the lime, leaving the sand; but where cement is used in the mortar, clay from the cement may be left with the sand A third test which it suggests, but does not recommend, is to pulverize some of the mortar, and throw the powder into a specific gravity solution, in which the lime will be held in suspension, while the sand will sink. While all these methods have their value, we will suggest that a readier and better test consists in rubbing a bit of the hardest mortar with the fingers. If the sand is easily rubbed out, too much has been used. In good mortar, hardened as it hardens in the wall, without the rapid drying which destroys the properties of loose bits exposed to wind and sun, the sand should be firmly held by the mortar. A few trials will enable a young architect to make this test with sufficient accuracy. He will soon find that cement mortar is far more likely to be over-sanded than mortar containing lime. There is a strange superstition among masons, which leads them to suppose, as they claim, that cement will take more sand than lime, whereas for making mortar, as distinguished from well-compressed concrete, the case is exactly the reverse; few cements are used for mortar bearing so much as three parts of sand, while mortar made with good lime is all the better for having five parts of sand to one of the dry lime. The sharpness of the sand is shown to a certain degree by the same test, as mortar will hold firmly a considerably larger proportion of sharp than of water-worn sand; but by putting a few particles of the sand in the palm of the hand and rubbing it with the finger, the difference between sharp and rounded grains may be immediately detected.—American Architect.

USEFUL HINTS.

The difficulty of finding a suitable paint for painting galvanized iron, and one that possesses adhesive qualities, has perhaps been experienced by most painters. There is a certain peculiarity about galvanized iron and zinc which makes it difficult to paint durably with such paints as are in general use. Within the entire range of mixtures with which we have experimented for that purpose, we find none to give as good satisfaction as carbon black, or lamp-black, mixed with pure linseed oil. This, if applied under favorable conditions, will last many years, and does not flake off like other paints, but only wears out by slowly perishing away.

Yellow and orange chromes have a tendency to rapidly blacken, as in the case of white lead, when exposed to sulphur gases, or when mixed with pigments containing sulphur and arsenic sulphide.

Painters will find that zinc white which has become hard may be softened, so that it can again be used for oil-paint coats, by annealing in a closed iron receptacle. This is the only known process, but the zinc white will not remain entirely white.