

Perma-Flex *Blak-Stretchy* cmc^{*}

(COLD MOLDING COMPOUND)

DESCRIPTION

Blak-Stretchy cmc is a two-part composition designed for use in making room temperature setting extremely elastic and flexible molds and patterns. *Blak-Stretchy* consists of a liquid base "A" of plasticized polysulfide synthetic rubber (the crude odor disappears in the cured product), reinforcing pigments, and curing time controls; and a catalyst, Curative "B," also in liquidized form, for ready dispersion into the "A" at the time of use. The "A" and "B" are combined into a fluid mixture which is flowed over a pattern or work piece, and sets in place into a true impression mold of the work piece, accurate to very close tolerances, as there is no measurable volume change in setting.

This mold is usable for the casting of plaster, concrete, and many other castables, including itself where a flexible duplicate of the original is needed. *Blak-Stretchy* is reasonably stable in the container and in the cured mold form on ageing. Cured molds are insoluble in all ordinary solvents and do not embrittle with age. They are slightly shrunk by alcohol and detergent solutions on long time exposure, but remain rubbery. The physical properties resemble those of gum rubber in stretch and tensile strength.

HOW TO USE

Mix thoroughly in a clean disposable container 100 parts of "A" by weight to 15 parts of "B" by weight. (Volume proportions: 10 "A" to 1 "B.") Normally, two to three minutes of thorough stirring with a flat spatula, or with a wire loop in a slow speed drill set-up, will suffice. Use care to work all unmixed "A" from the sides of the container to bring the entire mix to uniformity. For slowest set and maximum toughness and freedom from entrained air, start the mix at 50-60 deg. F., chilling the "A" if necessary before starting the mix. After mixing (1) allow to set for a few minutes to exhaust most bubbles, (2) paint a thin coat carefully over the work piece with a brush to assure perfect surface lay, and (3) pour the rest of the mix into place.

TEMPERATURE CONTROL

If the work is kept cold (approximately 50 deg. F.) at this time, it may be held unset for several hours to clear bubbles and densify the internal structure, then placed at 80 to 100 deg. F. to bring the set to completion overnight. Warm mixes will set faster, and where fabric or mat lamination is desired, successive coats may be applied over each other, allowing the work to set between coats.

Proportion of "B" can be varied between 12 and 20 parts per 100 "A" to develop faster or slower setting time. The use of standard Perma-Flax "C" curatives, either Pink or Yellow, in amounts of not over 0.5% will also speed up final set and give more "bounce." In all cases, final set can be expedited by warming the work slightly, since each 10 deg. F. increase halves the setting time (approximately). Use care in mounting work in all cases, to provide a vent beneath the work; this prevents blisters from forming from expanding air in or around the pattern while the CMC is setting. DO NOT REMOVE CMC FROM PATTERN UNTIL IT IS FULLY SET.

(OVER)

PATTERN AND MODEL PREPARATION

Model or pattern may be soap shined plaster or gypsum cement (Hydrocal), or any non-porous surface very lightly lubricated, with certain exceptions — painted surfaces and copper alloy or copper models must be covered with an extremely thin coat of shellac, followed by a uniform coat of Perma-Flex Pink Parting, over which is applied a thin coat of D-C No. 7 Silicone lubricant. Porous surfaces such as cloth or paper are sealed similarly. CMC poured into itself is treated in the same manner.

USE OF MOLDS

CMC molds and patterns find wide application as intermediate tooling. They readily release plaster, investment, concrete, many waxes, and gypsum cements with no parting except mold dressing to eliminate surface entrained air. For the preparation of plaster models for forming thermoplastic molds, such as KOROSEAL** FMC, they are ideal. CMC is ideal for forming over modeling clay, low melting white metals, waxes, etc., which are sensitive to heat.

Under special circumstances, one cast or more in such resins as acrylic, phenolic, polyester, and epoxy compounds can be made. We will attempt to advise on these as each presents special problems in parting.

STORAGE

Store containers at uniform temperature, with lids firmly covering the contents. Store finished molds and patterns with a master cast over the work face to protect from mechanical damage, dirt, and distortion of dimension. A thin coat of Dow-Corning No. 7 Compound will prevent sticking of the stored master to the mold.

INSTRUCTION SERVICE

Perma-Flex has since 1944 maintained an instruction shop in which skilled plaster operators, tool and die makers, and artists and sculptors may learn the basic techniques of moldmaking in flexible mold materials. This shop will attempt those moldmaking jobs which require extra skill and full utilization of the craft which we have taken pride in extending. We will give the best information we have where you cannot get here in person. Write, wire or 'phone us if you think we can help.

The Perma-Flex Mold Company

1919 E. LIVINGSTON AVENUE
COLUMBUS 9, OHIO

Pat. 2,600,354

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