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METHOD FOR THE MANUFACTURE OF WRITING-MASSSES

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The invention refers to the manufacture of writing-masses from writing-substance, filling-materials, and binding-materials.

The object of the invention is making writing-masses e. g. mines for pencils which are insensitive to moistness.

According to the invention this object is attained by using for the manufacture of pencil-mines binding-materials which are originally soluble in water, but which by heat treatment are transformed into insoluble state without their binding capacity being impaired.

As binding-materials of this kind artificial resins soluble in water e. g. condensation products soluble in water from phenol and formaldehyde or condensation products from urea and formaldehyde are used. These artificial resins are made insoluble by heat treatment.

As binding materials in the spirit of the invention also aqueous solutions of two or several artificial resins may be used. Such solutions combine into insoluble artificial resins under the action of heat.

Furthermore products of condensation soluble in water from phenol and formaldehyde or condensation products soluble in water from urea and formaldehyde may be used and rendered insoluble by adding hardening agents under heat treatment.

Finally, apart from the binding materials consisting of artificial resin, also other binding materials soluble in water e. g. tragacanth may be used.

In carrying the invention into effect, the following mixtures of substances are used by way of example:

Example I

	Parts
Methylene blue.....	28
Graphite	45
Condensation product soluble in water from phenol and formaldehyde (resol).....	24
Softening material.....	3
	100

Example II

	Parts
Eosin	28
Kaolin	35
Stearate of calcium	10
Condensation product soluble in water from urea and formaldehyde (e. g. caurit) in powder-form and in solution.....	22
Tragacanth	5
	100

Example III

	Parts
Methylene blue	28
Kaolin.....	20
Talc	15
Stearate of calcium.....	10
Dimethylol urea plus hardening agent (formic acid ester).....	22
Tragacanth	5
	100

From the mixture of substances according to Examples I or II or III a paste-like mass is formed under addition of water. This mass which is plastic, is then pressed into mines in the way usually employed in manufacturing pencil-mines. The finished mines are so insensitive to moisture that they may be boiled in water without softening.

According to the invention writing-, drawing-, copying- and colour-mines of any kind may be made, as well as rod-shaped writing-implements such as drawing- or marking-chalk.

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