



QUASAR s.r.l. **FABBRICA INCHIOSTRI PER SERIGRAFIA E DIGITALE**

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TECHNICAL DATA SHEET

212.000 SERIMAT

SAFETY DATA

Ink based on selected and top quality vinyl resins. All 212 SERIMAT components are in compliance with the REACH regulation (CE) n. 1907/2006 of the European Parliament and of the Council concerning the registration, evaluation, authorization and restriction of chemical substances and related updates and summaries. 212 SERIMAT complies with the ISO EN 71/9 standard concerning the presence of hazardous solvents. 212 SERIMAT is exempt from the following substances subject to registration:

- persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative substances (vPvB) according to Annex XIII Reach;
- substances included in the list subject to authorization, defined in accordance with Article 59;
- substances that exceed EEC limits at the workplace;
- substances subject to restrictions on the manufacture, placing on the market and use of substances and preparations as defined in Annex XVII.
- SVHC substances (Substances of Very High Concern) listed in the CANDIDATE LIST of substances of very high concern for Authorization, published in accordance with Article 59 of the REACH Regulation.

The precise choice of not having harmful and toxic components allows 212 SERIMAT to be used safely in the workplace, extending the intervals of legal visits.

The formulation of any Sample Tint for the reproduction of each color according to the Spectrophotometric method is provided free of charge to the customers.

CHARACTERISTICS AND ADHERENCE

212 SERIMAT has a matt aspect, without flocculations and very opaque. The particular solvent mixture, with a light odor, makes the ink always fresh on the printing frame, keeping it open even during breaks. In the event of a long working break, simply print a few test copies to free the stitches of the fabric. Basic resins give the ink chemical adherence on many supports of thermoplastic origin: PVC both in sheet and in rigid or soft sheet, some PVC inflatable (not very plasticized), polyester pretreated with primer, self-adhesive sheets in general, fake leather and sky using specific diluents, extruded methacrylate, objects in general, cardboard, ABS, polystyrene (polystyrene) using specific diluents, paper, cardboard, wood, TNT, overprinting offset and other supports. For special materials, please ask for advice from our laboratory, equipped with a large database. Consider that plastics, pure or mixed, are hundreds of thousands. In the case of particular supports on which insufficient adhesion can not be obtained, request the free consultation of our laboratory.

In the 212 SERIMAT series there are different types of white with high opacity and viscosity, metallised 212.781 Silver, 212.786 Gold Rich Pale, 212.787 Gold Rich, 212.788 Pale Gold in addition to special and dedicated colors. 212 SERIMAT is also compatible with many vinyl, acrylic and UV inks. It can be overprinted and undermolded to 250 FLEXIPRINT UV as well as on other similar series on the market.

RESISTANCE

212 SERIMAT is manufactured with quality pigments that reach, in the range of the color chart, the maximum values of the 7/8, 8 wool scale as per UNI 5773-66 regulation which establishes the criteria and the evaluation of the pigment quality values. 212 SERIMAT has good external resistance of more than 2 years, always respecting the thickness values of the silk-screen matrix and of the deposited thickness that must be higher than 20 microns in thickness. 212 SERIMAT has resistance to rubbing with ethyl alcohol higher than 100 rubbings and, in some cases, can withstand thermoforming. It is not resistant to green gasoline. In the printing of materials subjected to high-frequency welding all the colors resist excellently except Black. This application requires the 215.816 MOLDING BLACK

The 212 SERIMAT Fluo range of inks, based on fluorescent pigments, with a maximum of 4/5 wool scale, does not stand outside (full sun 45 ° south) more than a few weeks depending on the exposure. To extend the resistance to the outside when it is full, it must be overmoulded with the special PLEXIFORM UV FILTER 230.103

FOUR COLOUR PROCESS CMYK

212 SERIMAT range EUROPE Quadricromatico uses the Scala Europa according to ISO 2846. In the four-color printing it is very useful to enhance the thixotropic capacity of the ink by mixing it with the TIXOTROPIC AGENT 212.130 in the appropriate measure, without losing for the loss of intensity of the color tone. The dilution of the

four-color ink must be done with extra slow diluent 290.22 and only rarely with retarders. The 290.22 diluent gives the ink the properties of perfect passage through the meshes of the fabric with an excellent precision of the point, especially negative. During the four-color printing, it is advisable to re-integrate the ink on the frame with other slightly diluted ink at pre-established times.

In the Color Process selection always use the UCR or better GCR option and stick to the wire diameter / diameter ratio values. For information on the correction of densitometric selection curves in order to obtain the exact reproduction of the original and reduce the effects of Tint Error, Trapping, Print Contrast, etc., it is advisable you to consult Trattato di Serigrafia (Dealing with Screen printing) by Franco Lo Giudice.

PAD PRINTING

212 SERIMAT can also be printed in pad printing, having also been formulated with specific correspondence to this technology. The special formulation satisfies all the applications of pad printing and is able to offer inks that adapt to all the supports on the market even with specific treatments or additives for the most difficult cases. For the Tampographic application it is sufficient to add to the 212 SERIMAT the specific pad printing Diluent 290.18 in percentage from 5% to 10%

THINNERS

It is always best not to exaggerate with thinners to avoid ink precision loss. It is always a good idea shaking the inks before use, not manually but with a motorized rotor for about 4/5 minutes at not less than 1.000 turns a minute. Thinning should then be done after this process. The standard thinners suggested are: Normal 290.15 and Lento 290.23. A wide range of thinners, however, is available for every type of application.

THINNERS	NOXIOUSNESS	EVAPORATION	TECHNICAL FEATURES
RAPIDO 290.01 (Fast 290.01)	Non-toxic. Soft odour	Fast	Moderate power of etching substrate. Adapt for background prints and large areas.
RAPIDO 290.03 (Rapid 290.01)	harmful strong smell	very rapid	suitable for spray application, high power of attack of the supports; suitable for prints of extended areas, not indicated for polycarbonate; average power of anger
NORMALE 290.15 (Normal 290.15)	Non-toxic. Soft odour	Medium	Good power of etching substrate. Adapt for thermoplastic substrates. For normal printing.
NORMALE 290.16 (Normal 290.16)	Irritant soft odour	Medium fast	Reduces substantially the power of etching substrates. Makes inks matt-like. Avoid any form of stickiness. Suggested for embossing.
Tampografico 290.18 (Pad Printing 290.18)	Irritant soft odour	medium fast	Added from 5% to 10% allows the perfect detachment of the ink in the use of the Pad
LENTO 290.22 (Very Slow 290.22)	non-toxic, soft smell	very slow	Moderate power of etching substrate. Specific in the four-color printing and definition, leaves the ink always fresh on the frame without affecting the drying time. Recommended dose 5%
LENTO 290.23 (Slow 290.23)	Noxious soft odour	Slow	Good preparation of substrates. Adapt for thermoplastic substrates normal printing. Keeps inks fresh on screen.
Aggressivo 290.27 (Aggressive 290.27)	Noxious no odour	Slow	Not suitable for Toys sector. Excellent in association with 290.15. Improves ink retention on difficult media. Pay attention to the discovery of plasticizers. Add to the ink in max 3% amount
RITARDANTE 290.32 (Retarder 290.32)	Non-toxic. No odour.	not evaporate	minimum power to damage support, remains in the ink for a long time even after drying. It tends to delay evaporation of other solvents present. Not suitable for printing on highly plasticized and soft substrates, it must be used in extreme cases and in a maximum percentage of 3%. CAUTION when a retarder is present in the ink its drying becomes much slower and high pile of plasticized materials tend to stick together.

LIVELLANTE 291.00 (Leveling 291.00)	non-toxic no smell	not evaporate	eliminates dodges of the ink produced by silicone on the support ink to be printed. Add to the ink max 1%
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PRINTING ADVICE

Always use screens which are well stretched with a slight inclination of the mesh to avoid Closing Effect. Adopt all the techniques connected to reducing the RZ factor. In the case of high definition mesh use flood bar with sharp blades and polyurethane rubbers at high shore. Better still if supported. In the case of full and uniform underbases always take into consideration the fact that the spreading out of the ink works better with fast printing and high pressure made by the squeegee and not the contrary. A large amount of solvent evaporates during printing and so the amount lost must be reintegrated. It would also be advisable to add some more, slightly thinner ink to the screen at established intervals. It is better keep printing speed stable, even if slow, not to vary speeds. This stabilises as much as possible the thixotropy in the inks. When washing the screen, this must be done globally and not in sections, at least during high definition printing.

When printing on transparent material which must acquire a matt aspect, 212.135 PASTA DA TAGLIO (Cutting Paste) is used. Ink yield exceeds 40 mq with 120.34 PW mesh, with an average emulsion thickness: RZ Factor 10/15 the stencil must be resistant to solvents. The best mesh range from 77.55 PW for full and uniform underbases to 150.31 PW for fine line halftones four colour process printing.

DRYING (curing)

212 SERIMAT thinned normally without using retarding agents, dries in 15 minutes c. with a manual dryer at a room temperature between 17° and 23°C. In hot air curing units the temperature should not exceed 50°C in 20 seconds c.a. When using very thick mesh, for example with a thread diameter above 50 micron, depositing a large amount of ink lengthens the drying process. When collecting dry surfaces, carefully check that the support, pressed face-to-face, does not give rise to any tackiness.

PRODUCT LIFESPAN

If kept in its original confection, 212 SERIMAT will last a long time. If it is kept in closed tins in rooms with a maximum temperature of between 5° > 40°C, it will last 2 years without any particular damage. If it is kept for longer and once the product has been opened, it would be advisable to dilute the ink using a blade (or blade machine) so that evaporated thinners are reintegrated.

GUARANTY

QUASAR produces inks and screenprinting products with competence and experience and a quality control system with regards to raw materials used during the various elaboration processes.

Product components undergo a series of controls and continuous check and the results are archived along with the necessary samples of each separate product. This is of course in the interests not only of the manufacturer but also the customer.

The use and application of QUASAR srl products is so vast to escape every type of control, so the only guarantee that is guaranteed is the replacement of the product if it is proved to be defective or erroneous production.

The printer is therefore always responsible for choosing the type of ink used, and must perform appropriate preventive printing tests in order to verify the suitability for specific requests.

However, the major number of printing problems arise from bad application or a bad product choice.

The QUASAR laboratory and its technicians are available to give advice, make necessary corrections to, or personalise, their screen printing products.

We do therefore always hope for a tight collaboration with our customers so that we can always improve in the screen printing environment. The guarantees of quality and production are recognized by QUASAR srl exclusively for their inks packed in the original containers of kg.1 and 5 and in all the other packages of the house sealed at the origin.

COLOURS GUIDE 212 SERIMAT

100 TRANSPARENT BASE	400 BLUE	816 MOLDING BLACK
121 METALLIC BASE	411 LIGHT BLUE	271 EUROPE YELLOW
130 THIXOTROPIC AGENT	421 SEA BLUE	371 EUROPE MAGENTA
135 CUTTING PASTE	431 NAVY BLUE	471 EUROPE CYAN
200 COLD YELLOW	451 NIGHT BLUE	871 EUROPE BLACK
231 MILD YELLOW	511 BRIGHT GREEN	781 SILVER
241 WARM YELLOW	521 MID GREEN	786 PALE RICH GOLD
300 ORANGE	541 FAST GREEN	787 RICH GOLD
311 RED YELLOWY	551 DEEP GREEN	788 PALE GOLD
321 BRIGHT RED	600 OCHRE	261 FLUORESCENT YELLOW
331 RUBY RED	641 ENGLISH RED	351 FLUORESCENT ORANGE
341 DARK RED	700 WHITE	361 FLUORESCENT RED
372 SOLFERINO	741 OPAQUE WHITE	363 FLUORESCENT PINK
375 VIOLET	800 BLACK	561 FLUORESCENT GREEN

ANY REPRODUCTION, EVEN PARTIAL, IS FORBIDDEN