

Printing PSA Tapes

Since the starting of the production of PP tapes, **ICHEMCO** dedicated big efforts to the research and development of systems for printing all sorts of packaging and carton-sealing tapes based on OPP films.

Working in close collaboration with company **SIAT**, a primary manufacturer of machines for printing on PSA tapes, the aim has always been to have an answer ready for all needs.

As a result of this research, we developed the following list of products:

Primers

- Primer EPX-2 / EPX-2 ECO

Release agents

- Release PP25 DIL / PP25 DIL ECO
- Release ST1
- Release ST4 M

Additives

- Additivo ST2

Inks

- Color Ink PP NITRO
- Color Ink PP PAMC
- Color Ink PP PAM + Additive
- Color Ink W (several series)
- Color Ink PVC

For a correct choice of the printing system, the variables that have to be evaluated are:

the type of adhesive

solvent

hot-melt

water

the surface treatment of the film

corona untreated, with release coating

corona untreated, without release coating

corona untreated, with printable release

corona treated

corona treated, with printable release

This document will cover the printing systems presently available.

UNIVERSAL PRINTING PROCESS (3 passes)

Type of tape in PP (PET, PE)	Printing machines
All: solvent / hot-melt / waterborne adhesive, with or without release coat, corona treated or untreated	SIAT L 36, SIAT L 36 C

Product	Packaging	Quantity to apply
PRIMER EPX-2 (ECO ¹)	Packed in 20 kg or 200 l drums	3-4 g/m ² wet
COLOR INK PP NITRO ²	Packed in 10 - 20 kg drums	Depending on printing necessity
RELEASE PP 25 DIL (ECO ¹)	Packed in 20 kg or 200 l drums	3-4 g/m ² wet

¹ ECO versions, based on non-aromatic solvents, are available

² To be preferred to PAM inks, being not soluble in the toluene contained in the release agent and drying faster

SPECIAL PRINTING PROCESS (2 passes)

Type of tape in BOPP	Printing machines
Waterborne acrylic adhesive, either <i>low-noise</i> or normal	SIAT L 36 C, SIAT L 33/200

Product	Packaging	Quantity to apply
CORONA TREATMENT		38 - 40 dyne/cm
COLOR INK PP PAM+ADD.	Packed in 10 - 20 kg drums	Depending on printing necessity

Normal PAM inks (**Color Ink PP PAMC**) can also be used, by adding our **Additive ST 2** (50% ink, 50% additive).

If normal PAM inks are used without additive, it becomes necessary to protect the printed surface with a release coat (our **Release PP 25 DIL**), as indicated in the 3 passes process.

SIMPLIFIED PROCESS (1 pass)

PP tapes labelled "easy printable" are commercially available, which means they are already treated by producers with special lacquers, providing a direct acceptance of suitable inks (like tapes made with any of our **Release ST** series products: see below).

Type of tape in PP (PET, PE)	Printing machine
Pre-treated with Release ST	SIAT L 33 V

Product	Packaging	Quantity to apply
COLOR INK PP PAM+ADD.	Packed in 10 - 20 kg drums	Depending on printing necessity

Normal PAM inks (**Color Ink PP PAMC**) can also be used, by adding our **Additive ST 2** (50% ink, 50% additive).

RELEASE ST SERIES (PRINTABLE RELEASE COATS)

The ST release agent series has been developed for adhesive tapes producers, so that they can allow printers to use single-pass printing by using specially formulated inks (**Color Ink PP PAM+Add.**)

Our specific technical brochures, available on our web site, gives tape producers the necessary information about the way of using them.

Product	Packaging	Properties
RELEASE ST 1	Packed in 50 - 200 kg drums	Solvent based release coat to be used on OPP films with double side corona treatment (38-42 dynes/cm). Designed for standard hot-melt and solvent adhesives.
RELEASE ST 4M	Packed in 50 - 200 kg drums	Solvent based release coat, to be used on OPP film on the untreated side. Designed for standard hot-melt and solvent adhesives.

PVC PRINTING PROCESS

Type of tape in PP (PET, PE)	Printing machine
PVC	SIAT L 33

Product	Packaging	Quantity to apply
COLOR INK PVC	Packed in 10 - 20 kg drums	Depending on printing necessity

AVAILABLE DILUENTS

Product	Packaging	Composition (approximate)
DILUENT RP (Primer e Release)	25 kg drums	100% toluene
DILUENT C NITRO	20 kg drums	100% ethyl acetate
RETARDER C NITRO	20 kg drums	100% methoxy propanol
DILUENT C PAM *	20 kg drums	50% isopropyl alcohol - 50% heptane
RETARDER C PAM	20 kg drums	100% isobutyl alcohol
DILUENT C PVC	20 kg drums	100% methyl ethyl ketone
RETARDER C PVC	20 kg drums	100% cyclohexanone

* When using **Color Inks PP PAM+Add.**, we suggest using **Thinning Varnish PP PAM+Add.** instead of **Diluent C PAM**. This way is most suitable to maintain the equilibrium of the system.

FINAL REMARKS

Products used for printing must always be very homogeneous and fluid.

In case of printing defects (transfer of ink caused by low adhesion), please check the following points:


- Products must be homogeneous. There could be sedimentation at the bottom. Even moderate cold temperatures (below +18° C) can generate sedimentation.
Should this problem occur, warm the product up to 30-50°C and stir it well till perfect re-resolution of the ingredients.
If product is still rather thick at 20°C, add 15-20 pph of the specific **DILUENT** (see table above).
- Uncompleted drying after product application is also a common cause of problems.
- Verify that quantity applied (grammage) is correct.
- Pot-life of the products must not exceed the TDS indication.

The complete lists of the inks, and the product and safety data sheets of the above products are available on our web site at the address www.ichemco.it/inks

IF YOU NEED MORE INFORMATION

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