



## ECOFREC VLR 127 D

### Very Low Residue No Clean Solder Flux

#### DEFINITION

**ECOFREC VLR 127 D** is a flux with a very low dry extract developed to eliminate the cleaning step of the PCB after wave soldering.

Its activation system, without any halide (Fluoride, Chloride or Bromide) and no amine is eliminated after wave soldering, without leaving any aggressive and visible residue on printed circuit boards.

After ageing the cards in a humidity chamber at different temperatures and under bias, the performance in terms of surface insulation resistance are particularly high. The SIR on IPC B25 Pattern is around  $10^{10}$  ohms after 28 days, at 40°C, 93 % RH under 5 Volts or 28 days at 85°C, 85 % RH under 50 Volts.

**ECOFREC VLR 127 D** has been developed :

- ⇒ To ensure a good compatibility with a wide range of soldermasks.
- ⇒ To avoid solderballing through the use of additives designed to modify the surface tension of soldermask.
- ⇒ To reduce white fumes making-up on the wave through an appropriate choice of solvents and additives and to get a more neutral odour.

#### SPECIFICATIONS

◆ Density at 20°C	0,818
◆ Flash point	16°C
◆ Dry extract, 3 h at 105°C	1,9 %
◆ Halide Content	Zéro
◆ Acid index, mg KOH/g of solution	19

#### USE

**ECOFREC VLR 127 D** can be applied by foam or better still by spray. The spray application allows a uniform flux coverage on the circuit.

After flux application, preheat the printed circuit until the topside board temperature reaches 110-130°C prior to entering the solderwave. The temperature level obtained after preheat and solderwave will allow to eliminate all the residue and therefore to have a good cosmetic aspect of the PCB.

Flux Control : Contrary to some low residue flux, the flux control can be easily done by adjusting the density to its nominal value. The acid index is a complementary control but is not compulsory.



FRANCE	ESPAÑA	BELGIUM	NEDERLAND
Sales Department 26, Avenue du Petit Parc 94683 VINCENNES Cedex Tél. : (33) 1.43.98.75.00 Fax : (33) 1.43.98.21.51 Fax for order : (33) 1.49.83.92.17	PROMOSOL DIVISION IBERICA Poligono Industrial Sepes Parcela nº10 - 46500 Sagunto Valencia Tél. : (34) 96.266.32.11 Fax : (34) 96.266.50.25	Av. Carton-de-Wiart, 79 P.O. Box 2 B 1090 Bruxelles Tél. : (32) 2.425.00.20 Fax : (32) 2.425.96.62	Ekkersrijt, 1411 5692 AL SON Tél. : (31) 499.47.47.05 Fax : (31) 499.47.48.28

# P R O D U C T   D A T A   S H E E T



The density of **ECOFREC VLR 127 D** must be checked regularly and must be kept at nominal density by adding Diluent n°1.

Depending on the PCB and components oxydation level, it is possible to work in a density range of 0,814 to 0,825 without SIR failure.

In practice, PROMOSOL recommends adding **ECOFREC VLR 127 D** and Diluent n°1 alternately, to maintain the level in the flux equipment. Temperature must be taken into account while density measurement - (cf. figures 2 & 3). To ensure performance consistency, it is recommended to completely renew the flux every 40 hours work, depending on the production rate.

## SURFACE INSULATION RESISTANCE

The level of SIR performed on IPC SF 818-B25 pattern according to several temperature profile and to flux amount applied on boards are listed in the table 1.

The SIR value obtained are particularly high and near equivalent to that for unsoldered control boards.

## PIN POINT TESTER

Taking into account the absence of residue after wave soldering, **ECOFREC VLR 127 D** allows no interference with electrical probes.

## HYGIENE - SAFETY

**ECOFREC VLR 127 D** must be handled in a well-ventilated room far from any flame. Vapors must be evacuated from flux and solder work stations by efficient aspiration. Please refer to material safety data sheet.

## PACKAGING and STORAGE

- 5 and 20 l plastic drums

**ECOFREC VLR 127 D** must be stored in a cool and well-ventilated place in securely closed packaging, protected from freezing. A shelf life of no longer than one year is recommended.

**ECOFREC VLR 127 D** must be stored at the temperature of the production plant (20°C) for 12 hours before use.



---

### FRANCE

Sales Department  
26, Avenue du Petit Parc  
94683 VINCENNES Cedex  
Tél. : (33) 1.43.98.75.00  
Fax : (33) 1.43.98.21.51  
Fax for order : (33) 1.49.83.92.17

---

### ESPAÑA

PROMOSOL DIVISION IBERICA  
Poligono Industrial Sepes  
Parcela n°10 - 46500 Sagunto  
Valencia  
Tél. : (34) 96.266.32.11  
Fax : (34) 96.266.50.25

---

### BELGIUM

Av. Carton-de-Wiart, 79  
P.O. Box 2  
B 1090 Bruxelles  
Tél. : (32) 2.425.00.20  
Fax : (32) 2.425.96.62

---

### NEDERLAND

Ekkersrijt, 1411  
5692 AL SON  
Tél. : (31) 499.47.47.05  
Fax : (31) 499.47.48.28

---

# P R O D U C T   D A T A   S H E E T



*The information given herein is offered as a possible helpful suggestion only. PROMOSOL assumes no liability whatsoever arising out of its use by others.*



3/4

FRANCE	ESPANA	BELGIUM	NEDERLAND
Sales Department 26, Avenue du Petit Parc 94683 VINCENNES Cedex Tél. : (33) 1.43.98.75.00 Fax : (33) 1.43.98.21.51 Fax for order : (33) 1.49.83.92.17	PROMOSOL DIVISION IBERICA Poligono Industrial Sepes Parcela n°10 - 46500 Sagunto Valencia Tél. : (34) 96.266.32.11 Fax : (34) 96.266.50.25	Av. Carton-de-Wiart, 79 P.O. Box 2 B 1090 Bruxelles Tél. : (32) 2.425.00.20 Fax : (32) 2.425.96.62	Ekkersrijt, 1411 5692 AL SON Tél. : (31) 499.47.47.05 Fax : (31) 499.47.48.28

# PRODUCT DATA SHEET



Table 1

## ECOFREC VLR 127D - SURFACE INSULATION RESISTANCE, IPC SF 818-B25

PROFILE	LOW 90°C*/120°C**		MEDIUM 100°C/130°C		HIGH 130°C/160°C		CONTROL BOARDS MEDIUM PROFILE
	50g/m <sup>2</sup>	100g/m <sup>2</sup>	50g/m <sup>2</sup>	100g/m <sup>2</sup>	50g/m <sup>2</sup>	100g/m <sup>2</sup>	
FLUX AMOUNT APPLIED ON BOARDS	50g/m <sup>2</sup>	100g/m <sup>2</sup>	50g/m <sup>2</sup>	100g/m <sup>2</sup>	50g/m <sup>2</sup>	100g/m <sup>2</sup>	
SIR (OHMS) AT T0 20°C-65% RH	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>
T0 40°C-93% RH	4x10 <sup>9</sup>	0,5x10 <sup>9</sup>	7,5x10 <sup>10</sup>	1x10 <sup>9</sup>	1,8x10 <sup>10</sup>	1,1x10 <sup>10</sup>	3,5x10 <sup>9</sup>
T7D 40°C-93% RH 5 Volts	1x10 <sup>10</sup>	3,5x10 <sup>9</sup>	7,5x10 <sup>10</sup>	4x10 <sup>9</sup>	2,3x10 <sup>10</sup>	2,7x10 <sup>10</sup>	3x10 <sup>10</sup>
T21D 40°C-93% RH 5 Volts	1,3x10 <sup>10</sup>	7x10 <sup>9</sup>	6,5x10 <sup>10</sup>	7x10 <sup>9</sup>	3,8x10 <sup>10</sup>	1,7x10 <sup>10</sup>	5x10 <sup>10</sup>
T28D 40°C-93% RH 5 Volts	2,5x10 <sup>10</sup>	1,1x10 <sup>10</sup>	9x10 <sup>10</sup>	1x10 <sup>10</sup>	7,2x10 <sup>10</sup>	1,9x10 <sup>10</sup>	9x10 <sup>10</sup>
T28D 20°C-65% RH	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>	>10 <sup>12</sup>
T28D 85°C-85% RH 50 Volts	3x10 <sup>9</sup>	2x10 <sup>9</sup>	7x10 <sup>9</sup>	5x10 <sup>9</sup>	2x10 <sup>10</sup>	9x10 <sup>9</sup>	4x10 <sup>10</sup>

\*Topside Board Preheat Temperature.

\*\*Topside Board Temperature after wave soldering



### FRANCE

Sales Department  
26, Avenue du Petit Parc  
94683 VINCENNES Cedex  
Tél. : (33) 1.43.98.75.00  
Fax : (33) 1.43.98.21.51  
Fax for order : (33) 1.49.83.92.17

### ESPAÑA

PROMOSOL DIVISION IBERICA  
Poligono Industrial Sepes  
Parcela nº10 - 46500 Sagunto  
Valencia  
Tél. : (34) 96.266.32.11  
Fax : (34) 96.266.50.25

### BELGIUM

Av. Carton-de-Wiart, 79  
P.O. Box 2  
B 1090 Bruxelles  
Tél. : (32) 2.425.00.20  
Fax : (32) 2.425.96.62

### NEDERLAND

Ekkersrijt, 1411  
5692 AL SON  
Tél. : (31) 499.47.47.05  
Fax : (31) 499.47.48.28

# PRODUCT DATA SHEET



## ECOFREC VLR 127D

Figure 2

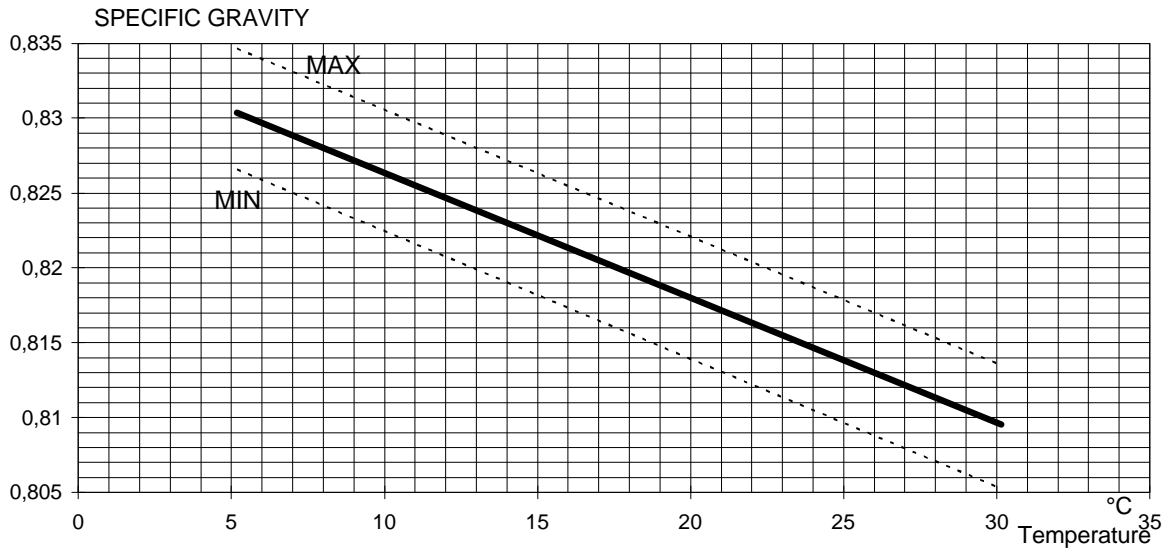
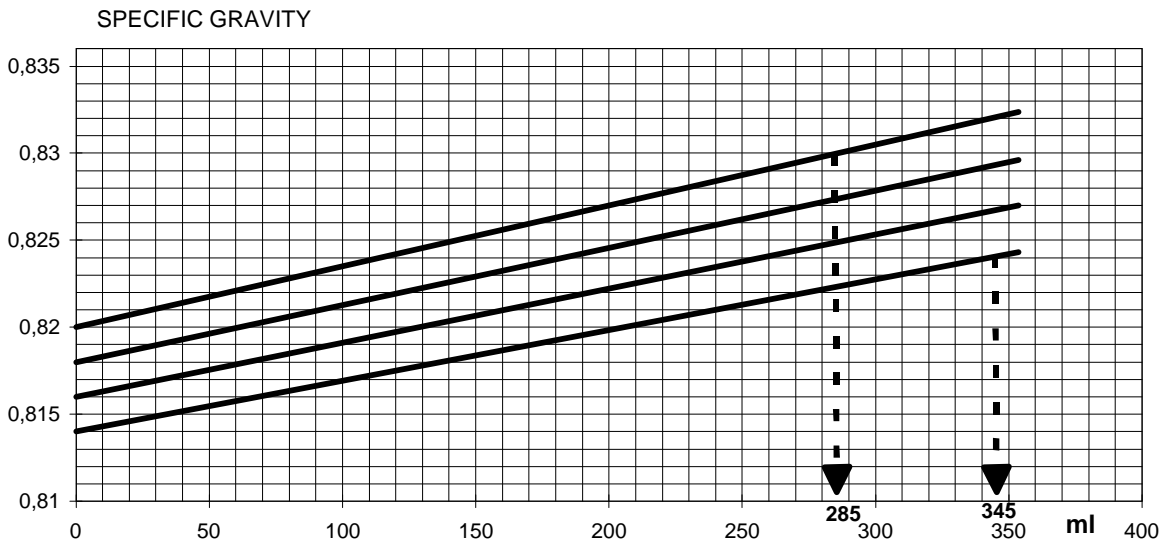


Figure 3

Volume of Thinner N°1 to be added to 1 liter of Ecofrec to get the needed specific gravity

1st example : from 0.830 to 0.820, add 285 ml Thinner N°1

2nd example : from 0.824 to 0.814, add 345 ml Thinner N°1



FPFGB 01272 TSI PRO 02 - 8/07/99



### FRANCE

Sales Department  
26, Avenue du Petit Parc  
94683 VINCENNES Cedex  
Tél. : (33) 1.43.98.75.00  
Fax : (33) 1.43.98.21.51  
Fax for order : (33) 1.49.83.92.17

### ESPAÑA

PROMOSOL DIVISION IBERICA  
Poligono Industrial Sepes  
Parcela nº10 - 46500 Sagunto  
Valencia  
Tél. : (34) 96.266.32.11  
Fax : (34) 96.266.50.25

### BELGIUM

Av. Carton-de-Wiart, 79  
P.O. Box 2  
B 1090 Bruxelles  
Tél. : (32) 2.425.00.20  
Fax : (32) 2.425.96.62

### NEDERLAND

Ekkersrijt, 1411  
5692 AL SON  
Tél. : (31) 499.47.47.05  
Fax : (31) 499.47.48.28