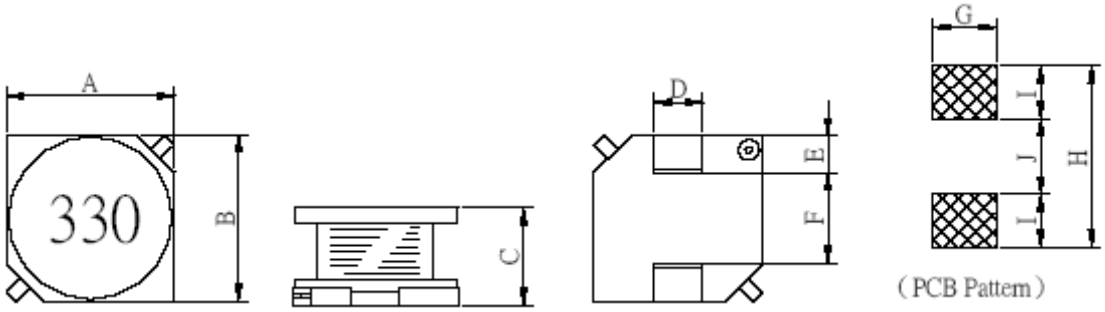
PNN6028 , PNN7045 , PNN1030 , PNN1045 & PNN1305

SMD Power Inductors Unshielded

C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

1. Configuration & Dimensions



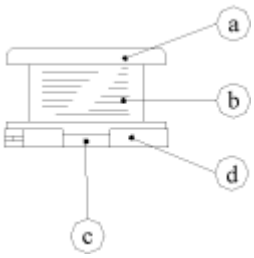
Series	Dimensions [mm]									
	A	B	C	D	E(typ.)	F	G(ref.)	H(ref.)	I(ref.)	J(ref.)
PNN6028	6.0±0.3	6.0±0.3	2.8±0.3	2.0±0.3	1.9	2.2 ref.	2.4	6.7	2.3	2.1
PNN7045	7.0±0.3	7.0±0.3	4.5±0.3	2.0 typ.	1.5	4.0 typ.	2.4	7.8	1.8	4.2
PNN1030	10.0±0.3	10.0±0.3	3.0±0.3	2.4 typ.	2.0	6.0 typ.	2.8	10.4	2.4	5.6
PNN1045	10.0±0.3	10.0±0.3	4.5±0.3	2.4 typ.	2.0	6.0 typ.	2.8	10.4	2.4	5.6
PNN1305	12.7±0.3	12.7±0.3	4.8±0.3	3.0 typ.	2.0	8.6 typ.	3.6	13.6	2.6	8.4

2. Schematic Diagram



3. Materials

a.- Core : Ferrite DR Core
b.- Wire : Enamelled copper wire (class F)
c.- Terminal : Cu/Ni/Sn
d.- Base : LCP Base
e.- Adhesive : Epoxy resin
f.- Remark : Lead content 200ppm max. include ferrite



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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

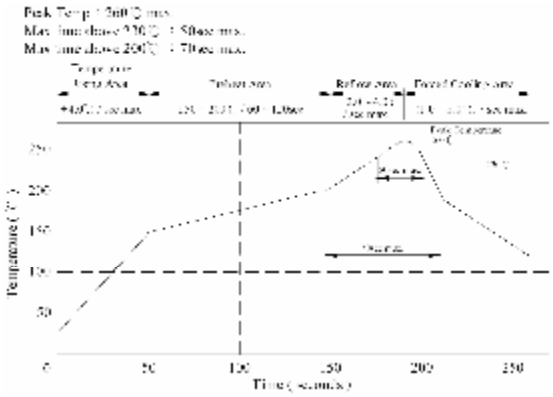
4. General Specification

a.- Temp. rise { 30°C max. (PNN1030) / 40°C max. (PNN6028,PNN7045,PNN1045,PNN1305)

b.- Storage temp. : -40°C ~ +125°C

c.- Operating temp. : -40°C ~ +125°C
(Temp. rise included)

d.- Resistance to solder heat : 260°C. 10 secs



5. Electrical Characteristics

PNN6028 (1.5µH – 1000µH)

DWG No.	Inductance (㎷)	Test Freq. L (KHz)	RDC (Ω) max.	Irms (A) max.	Isat (A) max.
PNN6028 – 1R5M	1.5±20%	100	0.028	4.00	3.50
PNN6028 – 2R2M	2.2±20%	100	0.030	3.30	2.80
PNN6028 – 3R3M	3.3±20%	100	0.058	2.50	2.30
PNN6028 – 4R7M	4.7±20%	100	0.065	2.20	2.00
PNN6028 – 6R8M	6.8±20%	100	0.085	2.00	1.70
PNN6028 – 100M	10.0±20%	100	0.115	1.70	1.50
PNN6028 – 150M	15.0±20%	100	0.160	1.40	1.15
PNN6028 – 220M	22.0±20%	100	0.210	1.25	0.95
PNN6028 – 330M	33.0±20%	100	0.320	1.00	0.80
PNN6028 – 470K	47.0±10%	100	0.450	0.75	0.70
PNN6028 – 680K	68.0±10%	100	0.650	0.65	0.60
PNN6028 – 101K	100.0±10%	100	0.880	0.52	0.50
PNN6028 – 151K	150.0±10%	100	1.280	0.40	0.38
PNN6028 – 221K	220.0±10%	100	1.920	0.33	0.30
PNN6028 – 331K	330.0±10%	100	2.850	0.28	0.26
PNN6028 – 471K	470.0±10%	100	4.350	0.22	0.21
PNN6028 – 681K	680.0±10%	100	6.500	0.18	0.18
PNN6028 – 102K	1000.0±10%	100	12.500	0.13	0.14

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C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PNN7045 (1.2µH – 1000µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) typ.	RDC (W) max.	Irms (A) max.	Isat (A) typ.
			L (KHz)	Q (MHz)				
PNN7045 – 1R2M	1.2±20%	25	100	7.96	90	0.022	3.80	5.00
PNN7045 – 1R5M	1.5±20%	26	100	7.96	109	0.027	3.50	4.50
PNN7045 – 2R2M	2.2±20%	24	100	7.96	79	0.032	3.30	4.00
PNN7045 – 3R3M	3.3±20%	23	100	7.96	47	0.036	2.80	3.70
PNN7045 – 4R7M	4.7±20%	23	100	7.96	38	0.042	2.60	3.40
PNN7045 – 6R8M	6.8±20%	22	100	7.96	35	0.054	2.25	2.70
PNN7045 – 100M	10.0±20%	28	100	2.52	23	0.070	2.00	2.30
PNN7045 – 150M	15.0±20%	24	100	2.52	19	0.086	1.60	1.90
PNN7045 – 220M	22.0±20%	26	100	2.52	18	0.125	1.40	1.62
PNN7045 – 330M	33.0±20%	20	100	2.52	18	0.150	1.22	1.32
PNN7045 – 470K	47.0±10%	21	100	2.52	11	0.230	1.00	1.10
PNN7045 – 680K	68.0±10%	17	100	2.52	11	0.280	0.90	0.92
PNN7045 – 101K	100.0±10%	17	100	0.796	10	0.430	0.75	0.72
PNN7045 – 151K	150.0±10%	17	100	0.796	8	0.580	0.62	0.58
PNN7045 – 221K	220.0±10%	22	100	0.796	6	0.930	0.50	0.48
PNN7045 – 331K	330.0±10%	20	100	0.796	6	1.240	0.42	0.40
PNN7045 – 471K	470.0±10%	20	100	0.796	4	1.850	0.34	0.30
PNN7045 – 681K	680.0±10%	18	100	0.796	4	2.400	0.30	0.26
PNN7045 – 102K	1000.0±10%	48	100	0.252	3	4.000	0.22	0.20

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C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PNN1030 (2.7µH – 1000µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) typ.	RDC (W) max.	Irms (A) max.	Isat (A) typ.
			L (KHz)	Q (MHz)				
PNN1030 – 2R7M	2.7±20%	13	100	7.96	73.6	0.028	3.00	4.20
PNN1030 – 4R7M	4.7±20%	13	100	7.96	49.5	0.040	2.60	3.50
PNN1030 – 6R8M	6.8±20%	15	100	7.96	38.1	0.052	2.20	2.80
PNN1030 – 100M	10.0±20%	15	100	2.52	33.1	0.064	2.00	2.40
PNN1030 – 150M	15.0±20%	18	100	2.52	25.7	0.100	1.65	1.85
PNN1030 – 220M	22.0±20%	20	100	2.52	22.3	0.145	1.38	1.60
PNN1030 – 330M	33.0±20%	16	100	2.52	16.4	0.200	1.10	1.25
PNN1030 – 470M	47.0±20%	10	100	2.52	14.2	0.270	0.96	1.10
PNN1030 – 680M	68.0±20%	12	100	2.52	12.2	0.360	0.82	0.90
PNN1030 – 101K	100.0±10%	14	100	0.796	9.3	0.540	0.70	0.75
PNN1030 – 151K	150.0±10%	23	100	0.796	7.9	0.700	0.60	0.58
PNN1030 – 221K	220.0±10%	23	100	0.796	6.2	1.150	0.46	0.48
PNN1030 – 331K	330.0±10%	25	100	0.796	5.1	1.700	0.38	0.40
PNN1030 – 471K	470.0±10%	20	100	0.796	3.8	2.250	0.28	0.32
PNN1030 – 681K	680.0±10%	18	100	0.796	3.2	3.300	0.23	0.27
PNN1030 – 102K	1000.0±10%	42	100	0.252	2.5	4.700	0.20	0.23

PNN1045 (2.7µH – 1000µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) typ.	RDC (W) max.	Irms (A) max.	Isat (A) typ.
			L (KHz)	Q (MHz)				
PNN1045 – 2R7M	2.7±20%	25	100	7.96	68.7	0.026	4.80	6.20
PNN1045 – 4R5M	4.5±20%	25	100	7.96	44.2	0.033	4.20	5.20
PNN1045 – 6R8M	6.8±20%	22	100	7.96	35.8	0.040	3.50	4.20
PNN1045 – 100M	10.0±20%	26	100	2.52	27.8	0.050	3.20	3.60
PNN1045 – 150M	15.0±20%	26	100	2.52	23.7	0.068	2.50	3.00
PNN1045 – 220M	22.0±20%	22	100	2.52	19.4	0.088	2.20	2.60
PNN1045 – 330M	33.0±20%	20	100	2.52	15.8	0.110	1.90	2.10
PNN1045 – 470M	47.0±20%	21	100	2.52	13.6	0.165	1.60	1.85
PNN1045 – 680M	68.0±20%	21	100	2.52	11.1	0.225	1.30	1.50
PNN1045 – 101K	100.0±10%	14	100	0.796	9.7	0.300	1.10	1.30
PNN1045 – 151K	150.0±10%	16	100	0.796	7.1	0.500	0.85	1.05
PNN1045 – 221K	220.0±10%	15	100	0.796	6.4	0.680	0.72	0.85
PNN1045 – 331K	330.0±10%	12	100	0.796	4.6	0.950	0.62	0.70
PNN1045 – 471K	470.0±10%	12	100	0.796	4.2	1.280	0.52	0.58
PNN1045 – 681K	680.0±10%	13	100	0.796	3.6	1.920	0.43	0.46
PNN1045 – 102K	1000.0±10%	25	100	0.252	2.9	2.700	0.38	0.40

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C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

PNN1305 (2.5µH – 1000µH)

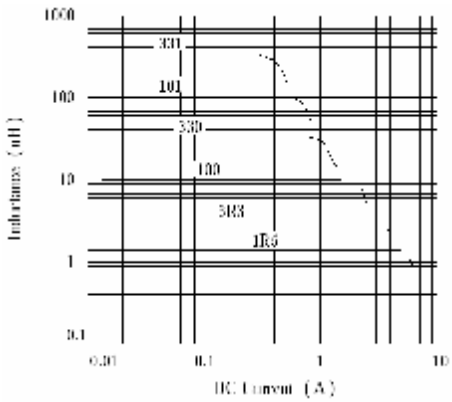
DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) typ.	RDC (mW) max.	Irms (A) max.	Isat (A) typ.
			L (KHz)	Q (MHz)				
PNN1305 – 2R5	2.5±25%	20	100	7.96	61.0	14	7.20	8.00
PNN1305 – 3R5	3.5±25%	18	100	7.96	43.0	16	6.00	7.00
PNN1305 – 4R6	4.6±25%	20	100	7.96	35.0	18	5.20	6.00
PNN1305 – 6R8	6.8±25%	18	100	7.96	32.0	24	4.30	5.20
PNN1305 – 100M	10.0±20%	25	100	2.52	27.0	37	3.60	4.40
PNN1305 – 150M	15.0±20%	25	100	2.52	24.0	46	3.30	3.70
PNN1305 – 220M	22.0±20%	26	100	2.52	20.0	62	2.90	3.00
PNN1305 – 330M	33.0±20%	22	100	2.52	16.0	85	2.50	2.60
PNN1305 – 470M	47.0±20%	20	100	2.52	13.0	130	1.90	2.00
PNN1305 – 680M	68.0±20%	20	100	2.52	11.0	165	1.65	1.80
PNN1305 – 101K	100.0±10%	18	100	0.796	11.0	255	1.40	1.40
PNN1305 – 151K	150.0±10%	15	100	0.796	8.0	380	1.20	1.15
PNN1305 – 221K	220.0±10%	15	100	0.796	7.0	500	1.00	0.95
PNN1305 – 331K	330.0±10%	10	100	0.796	6.0	700	0.85	0.80
PNN1305 – 471K	470.0±10%	10	100	0.796	4.0	1150	0.67	0.70
PNN1305 – 681K	680.0±10%	10	100	0.796	3.5	1400	0.60	0.58
PNN1305 – 102K	1000.0±10%	32	100	0.252	2.7	2350	0.46	0.47

[Inductance tested at : 0.1V(PNN6028...PNN1045), 10mV(PNN1305)]
[Irms base on temp. rise : 30°C(PNN1030), 40°C(PNN6028,PNN7045,PNN1045,PNN1305)]
[Isat base on ΔL/L0A = 10%(PNN6028...PNN1045), 25%(PNN1305)]

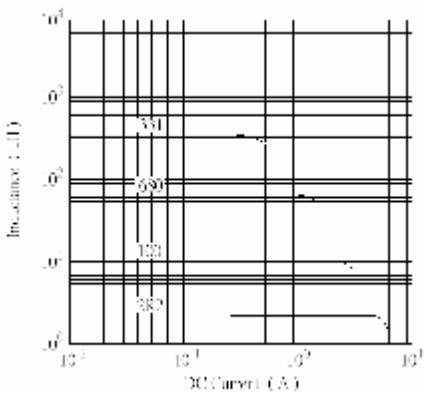
6. Curve

Inductance VS. DC Current Curve

PNN6028



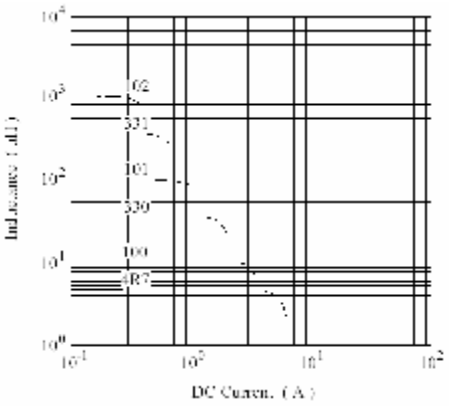
PNN7045



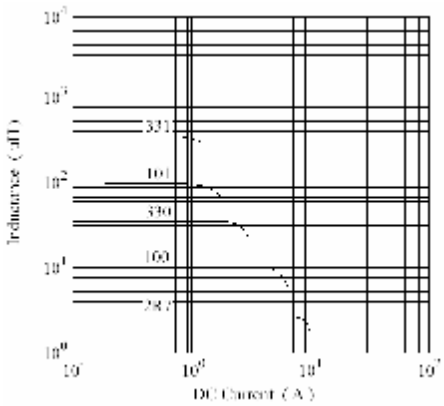
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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

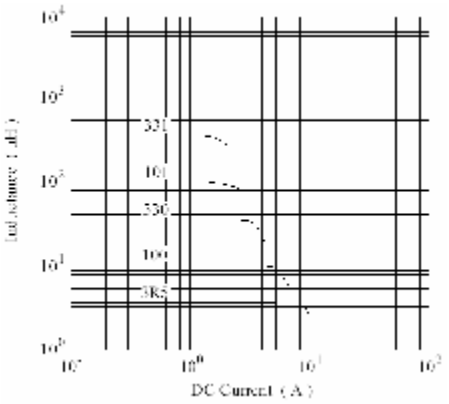
PNN1030



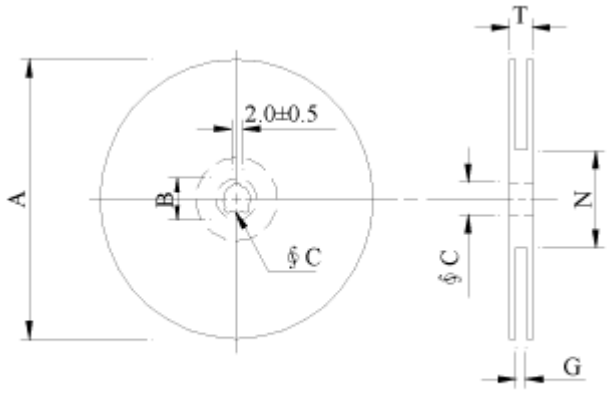
PNN1045

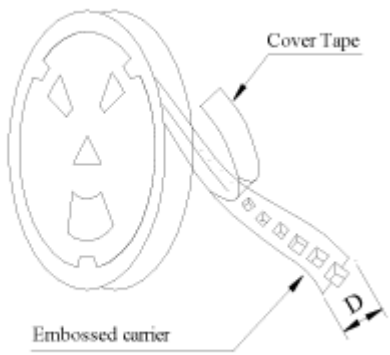


PNN1305



7. Packaging Information





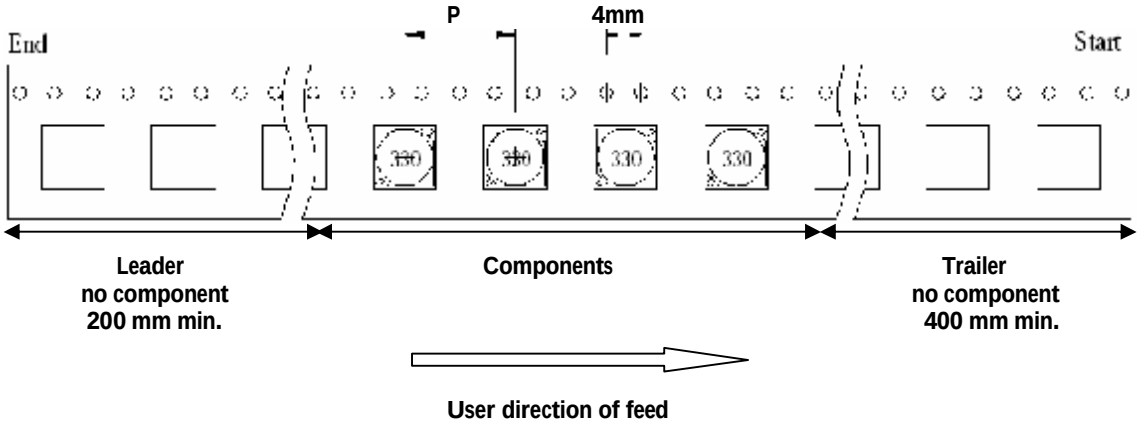
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PNN6028 , PNN7045 , PNN1030 , PNN1045 & PNN1305

SMD Power Inductors Unshielded

C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com



(PNN6028, PNN7045 à P = 12mm) (PNN1030, PNN1045, PNN1305 à P = 16mm)

PNN6028

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
07 – 16	178	21±0.8	13	16	18^{+0}	50^{-0}	20.5
13 – 16	330	21±0.8	13±0.5	16	18^{+0}	50^{-0}	22.4

PNN7045

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 – 16	330	21±0.8	13±0.5	16	18^{+0}	50^{-0}	22.4

PNN1030, PNN1045 & PNN1305

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 – 24	330	21±0.8	13±0.5	24	26^{+0}	50^{-0}	30.4

Series	Inner : Reel			Outer : Carton		
	Q'TY(pcs)	G.W.(gw)	Style	Q'TY(pcs)	G.W.(Kg)	Size(cm)
PNN6028	400	300	07 – 16	12,000	10.0	42 x 41 x 24
PNN6028	1,500	1,100	13 – 16	9,000	8.0	40 x 40 x 24
PNN7045	1,000	255	13 – 16	6,000	1.84	40 x 40 x 24
PNN1030	1,000	3,000	13 – 24	4,000	12.0	40 x 40 x 24
PNN1045	700	2,000	13 – 24	2,800	9.0	40 x 40 x 24
PNN1305	600	1,430	13 - 24	2,400	6.8	40 x 40 x 24

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E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

8. Labelling



9. Reliability Test

Test item	Specification	Test condition
Solderability	More than 90% of the terminal electrode shall be covered with fresh solder	Preheat : 150±25% for 60 seconds Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent Solder temp. : 235±5ºC Flux : Rosin Dip time : 4±1 seconds
Thermal shock test (Temp. cycle)	Inductance shall not change more than ±20%	Room temp. 15 minutes → -25±2ºC 30 minutes Room temp. 15 minutes → 85±2ºC 30 minutes Total : 50 cycles
Humidity Resistance test		Temperature : 40±2ºC Humidity : 90 ~ 95% Applied current : Per specifications Time : 500 hours
High temp. Resistance test		Temperature : 85±2ºC Applied current : Per specifications Time : 500 hours

10. Edition Control

Edition	Date	Change description	Made by
1st	31/08/06	Update Specification	Pablo Pozo

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C/Severo Ochoa 33 – Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web http://www.grupopremo.com

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