

# Food & Beverage Industry





## Presentation

- SENTINEL SERIES
- Solid Lubrication
- Advantages & Benefits
- Product ranges



## Sales Tools

- Communication supports
- Family / Sub-Family prices





# SENTINEL

## Series

Presentation Range



# What is Sentinel Series ?

- ❖ Product ranges **always and only** with Solid Lubrication
- ❖ Application : Food & Beverage industry
- ❖ Main Message : Premium Quality / Optimal Security for Food market

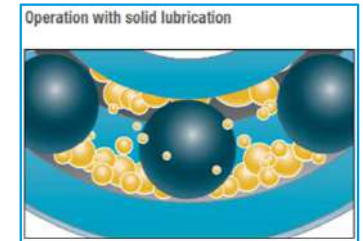
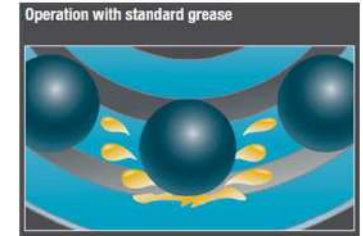
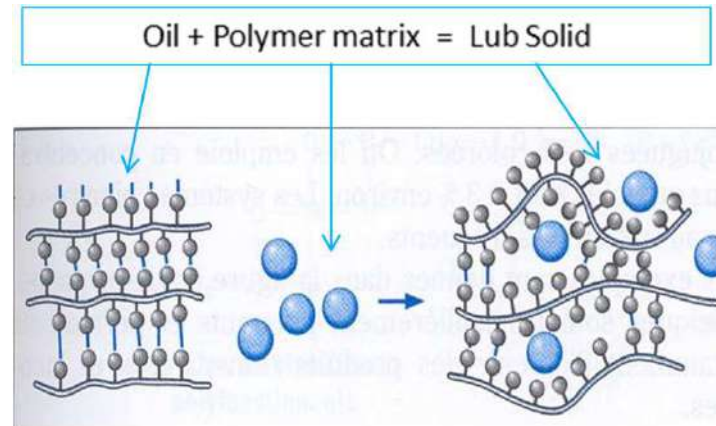


# What is Solid Lubrication ?

The concept is that of a porous polymer matrix containing a large quantity of oil. x4 vs contained in grease.

Due to its solid nature, this lubricant cannot flow out from the bearing.

- Ensures the cleanliness of your environment
- No need to re-grease
- Its also improve the bearing lifetime



2 concepts :

➤ “Full Pack” lubrication : The matrix fills the free space in the bearing fully, thereby preventing pollution and water from entering (example : SNR BU suffix FG1)



➤ “Spot Pack” lubrication : The matrix is filled by pockets between each rolling elements, thereby providing constant lubrication while maintaining a good level of rotation speed (example : NTN DGBB suffix LP09)





# Which advantages & benefits ?

## ➤ Security :

### *About People, Production, Machines*

- Total elimination of grease leakages => linked with market's requirements
- Problem of accessibility for re-greasing is solved
- Barrier against Contamination & Bacteria => production safety
- Solid lubrication is homologated from NSF Category H1
- High pressure washing resistant => application safety



## ➤ Productivity (TCO) :

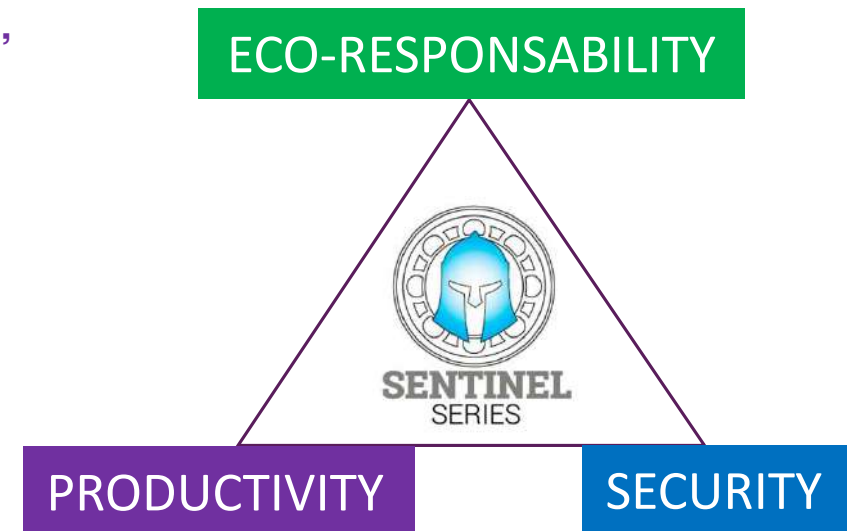
### *Customers understanding : "to invest more to gain more"*

- No re-greasing
- Expanding bearing life time
- No maintenance for re-greasing and to replace bearing

## ➤ Eco-Responsability :

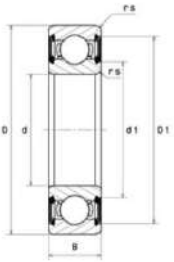
### *NTN contribute to create sustainable products*

- Reduction of grease consumption
- Reduction of bearing consumption



# Which product ranges ?

➤ **NTN Stainless Steel DGBB range : SSN/LP09**  
**LP09 = NTN “Solid grease” Spot-Pack Application**



## TECHNICAL CHARACTERISTICS

- High-quality stainless steel 440C
- Reinforced elastomer seals (LL)
- “Solid Grease” lubrication NSF category H1 and FDA approved (US Food and Drug Administration)
- Bearing greased for life
- Available for 6000 and 6200 series (shaft diameters from 10 to 40 mm)



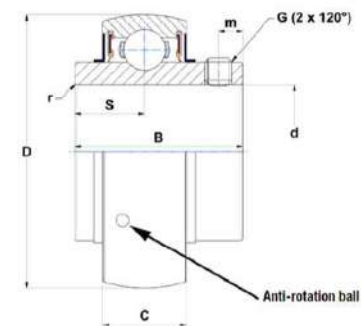
## BENEFITS

- High rotation speed thanks to the “Spot Pack” application
- Very good resistance to corrosion
- Excellent resistance to outdoor pollution
- Keeps the production chain clean

Reference	Dimensions (mm)				Basic Load rating (kN)		Speed (rpm) Mechanical limit speed	Weight (kg)	Basic Reference
	d	D	B	rs	Cr	Co			
SSN000LL/LP09	10	26	8	0,3	3,5	1,96	10000	0,02	S6000
SSN001LL/LP09	12	28	8	0,3	3,95	2,39	8300	0,02	S6001
SSN002LL/LP09	15	32	9	0,3	4,3	2,86	6600	0,03	S6002
SSN003LL/LP09	17	35	10	0,3	4,6	3,25	5800	0,07	S6003
SSN004LL/LP09	20	42	12	0,6	7,2	5,05	5000	0,07	S6004
SSN005LL/LP09	25	47	12	0,6	7,75	5,85	4000	0,08	S6005
SSN006LL/LP09	30	55	13	1	10,2	8,25	3300	0,12	S6006
SSN007LL/LP09	35	62	14	1	12,3	10,3	2800	0,16	S6007
SSN008LL/LP09	40	68	15	1	12,9	11,5	2500	0,19	S6008
SSN200LL/LP09	10	30	9	0,6	3,95	2,39	10000	0,03	S6200
SSN201LL/LP09	12	32	10	0,6	5,25	3,05	8300	0,04	S6201
SSN202LL/LP09	15	35	11	0,6	5,85	3,75	6600	0,05	S6202
SSN203LL/LP09	17	40	12	0,6	7,35	4,8	5800	0,12	S6203
SSN204LL/LP09	20	47	14	1	9,9	6,65	5000	0,11	S6204
SSN205LL/LP09	25	52	15	1	10,8	7,85	4000	0,13	S6205
SSN206LL/LP09	30	62	16	1	15	11,3	3300	0,20	S6206
SSN207LL/LP09	35	72	17	1,1	19,8	15,4	2800	0,29	S6207
SSN208LL/LP09	40	80	18	1,1	22,4	17,8	2500	0,37	S6208

# Which product ranges ?

➤ **SNR Stainless Steel Insert Bearing range : SUC/FG1 (7 P/Ns)**  
**FG1 = SNR LUBSOLID® Full-Pack Application**



## TECHNICAL CHARACTERISTICS

- Insert bearing fully filled with LUBSOLID® solid lubricant
- 440C stainless steel referenced for food-processing applications
- Sealing reinforced against humidity and contamination
- Anti-rotation ball on the outer ring (increased safety especially in combination with thermoplastic bearings)
- Lubrication complying with the sanitary requirements of NSF code category: H1



## BENEFITS

- Cleanliness of the production line, no leakage of grease
- Elimination of re-greasing and maintenance
- No more difficulties of accessibility for maintenance
- Significantly increased insert service life
- LUBSOLID® withstands high pressure washing
- Reduction of the number of machine shutdowns
- Reduction of maintenance interventions
- Reduction of environmental impact

Référence	Dimensions (mm)						Couple de serrage vis (Nm)	Charges de base (kN)		Vitesse (tr/mn) Vitesse limite mécanique				Poids (kg)
	d	D	B	C	D1	G		Cr	Co	j7	h7	h8	h9	
SUC204FG1	20	47	31	17	28,3	M6x1	3,9	10,1	6,8	3800	3400	1200	0,16	
SUC205FG1	25	52	34,1	17	34	M6x1	3,9	11	8	3300	3000	1000	0,2	
SUC206FG1	30	62	38,1	19	40,3	M6x1	3,9	15,3	11,5	2800	2400	850	0,32	
SUC207FG1	35	72	42,9	20	46,9	M8x1	8,3	20,1	15,6	2400	2000	750	0,47	
SUC208FG1	40	80	49,2	21	52,4	M8x1	8,3	22,8	18,2	2200	1900	670	0,63	
SUC209FG1	45	85	49,2	22	57,4	M8x1	8,3	25,7	20,8	2000	1700	600	0,69	
SUC210FG1	50	90	51,6	24	61,8	M10x1.25	18,7	27,5	23,7	1900	1600	560	0,77	



# Which product ranges ?

➤ **SNR Stainless Steel Insert bearing range : SUC/FG1**  
**FG1 = SNR LUBSOLID® Full-Pack Application**



➤ **SNR BU range : SUC/FG1 + Housing (33 P/Ns)** (Covers sold as a option)  
**Thermoplastic housings => 5 design with W prefix (without greaser) : WFPL, WNFL, WPPL, WTBL, WFBL**

SUCFPL200FG1 Four bolt flange  
 SUCNFL200FG1 Two bolt flange  
 SUCPPL200FG1 Pillow block  
 SUCTBL200FG1 Tapped base Pillow block  
 SUCFBL200FG1 Three bolt flange



➤ **SNR BU range : SUC/FG1 + Housing (40 P/Ns)** (Covers sold as a option)  
**Stainless Steel housings => 6 design 100% with grooves for covers: SF, SFL, SP, SPA, ST, SFB**

SUCF200FG1 Four bolt flange  
 SUCFL200FG1 Two bolt flange  
 SUCP200FG1 Pillow block  
 SUCPA200FG1 Tapped base Pillow bloc  
 SUCT200FG1 Take-up  
 SUCFB200FG1 Three bolt flange



**Stainless bolt screw (SSPM6X1) replace greaser on housings**





# SENTINEL Series

Sales Tools



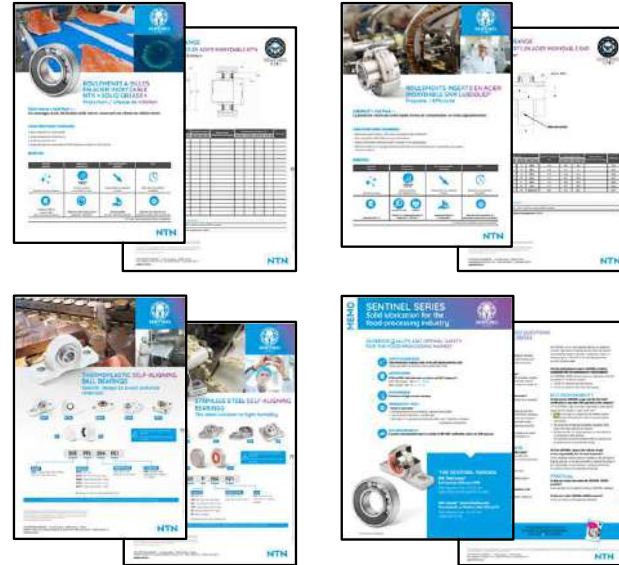
## Sentinel Suitcase



## Sentinel Brochure



## Sentinel Flyers & Memo



## Mail banner



## Advertising hook



## Sentinel Success Stories (NBCA)

**NTN** SUCCESS REPORT

**NTN's Sentinel® Series Drills Through Downtime at Poultry Processing Plant**

**VALUE ADDED BREAKDOWN**

- UP TIME IMPROVEMENT \$37,900
- MAINTENANCE REDUCTION \$5,200
- REPAIR ACQUISITION COST \$800
- EQUIPMENT COST SAVINGS \$243,634

**ANNUALIZED COST SAVINGS \$243,634**

**NTN** SUCCESS REPORT

**NTN's Sentinel® Series Saves Poultry Processing Plant Thousands**

**VALUE ADDED BREAKDOWN**

- REPAIRS PLANE REDUCTION \$21,500
- MAINTENANCE REDUCTION \$11,000
- UP TIME IMPROVEMENT \$2,500
- DOCUMENTARY COST SAVINGS \$61,040

**ANNUALIZED COST SAVINGS \$120,480**

**NTN** SUCCESS REPORT

**NTN's Sentinel® Series Improves Filling & Capping Operations at Major Beverage Plant**

**VALUE ADDED BREAKDOWN**

- UP TIME IMPROVEMENT \$2,000
- MAINTENANCE REDUCTION \$48,000
- REPAIRS PLANE REDUCTION \$1,000
- DOCUMENTARY COST SAVINGS \$183,780

**ANNUALIZED COST SAVINGS \$183,780**

**NTN** SUCCESS REPORT

**NTN's Green Line with Solid Lube Quadruples Uptime on Poultry Waste Conveyor Screws**

**VALUE ADDED BREAKDOWN**

- UP TIME IMPROVEMENT \$118,400
- MAINTENANCE REDUCTION \$13,900
- REPAIRS PLANE REDUCTION \$4,000
- DOCUMENTARY COST SAVINGS \$125,402

**ANNUALIZED COST SAVINGS \$125,402**



ONGOING...  
*“European Sentinel Success book”*



# SUCCESS STORY

**Pasta Producer** **FRANCE**

**CUSTOMER SITUATION**  
**Application :** ..... is a French industrial pasta producer, specializing in "Ravioles". Sanitary requirement becoming more and more drastic, grease leakages on the production lines are increasingly badly accepted.



**CUSTOMER NEEDS**

- Avoid any leakages.
- Make productivity : bearings consumption is important, bearing lifetime is around 1 year, especially due to the alkaline solution washing they use.

**NTN-SNR SOLUTION : Sentinel Lubsolid® BU**



- Sentinel Lubsolid® avoid any leakages outside the bearing.
- This technology doesn't require any re-greasing.
- Solid lubrication filled 100% free volume ensuring a complete protection against contamination (pollution, washing agent).

**RAISONS OF SUCCESS - CUSTOMER'S TOP :**

- **Total elimination of leakages.** 1<sup>st</sup> comment after a customer audit : "production line is cleaner".
- Production lines where Sentinel product have been installed running well for 8 months and productivity is expected.
- Maintenance people **stopped their re-greasing campaign** (TCO).
- **Complete customer satisfaction** who is open to pursue the replacement of the standard BU by Sentinel solid lubrication.

**MARKET FDA**



**Sentinel Bearing Unit**



**75 pcs/Lot**

**PRODUCT REF. SUCNFL206FG1**

❖ Sentinel Price list :

- Internal Price list
- Will become external for the next updated price list

❖ Family :

SEN

❖ Sub/family :

- SE1 = Stainless Steel DGBB range
- SE2 = Bearing Unit range (inserts, BU and housings)

SSN (SE1)	
Picture	NTN P/N
	SSN000LL/LP09
	SSN001LL/LP09
	SSN002LL/LP09
	SSN003LL/LP09
	SSN004LL/LP09
	SSN005LL/LP09
	SSN006LL/LP09
	SSN007LL/LP09
	SSN008LL/LP09
	SSN200LL/LP09
	SSN201LL/LP09
	SSN202LL/LP09
	SSN203LL/LP09
	SSN204LL/LP09
	SSN205LL/LP09
	SSN206LL/LP09
SSN207LL/LP09	
SSN208LL/LP09	

SUC (SE2)	
Picture	NTN P/N
	SUC204FG1
	SUC205FG1
	SUC206FG1
	SUC207FG1
	SUC208FG1
	SUC209FG1
	SUC210FG1

BU SS (SE2)	
Picture	SNR P/N
	SUCP204FG1
	SUCP205FG1
	SUCP206FG1
	SUCP207FG1
	SUCP208FG1
	SUCP209FG1
	SUCP210FG1
	SUCPA204FG1
	SUCPA205FG1
	SUCPA206FG1
	SUCPA207FG1
	SUCPA208FG1
	SUCPA209FG1
	SUCPA210FG1
	SUCFL204FG1
	SUCFL205FG1
	SUCFL206FG1
	SUCFL207FG1
	SUCFL208FG1
	SUCFL209FG1
	SUCFL210FG1
	SUCFBL204FG1
	SUCFBL205FG1
	SUCFBL206FG1
	SUCFBL207FG1
	SUCFBL208FG1
	SUCFBL209FG1
	SUCFBL210FG1
	SUCF204FG1
	SUCF205FG1
	SUCF206FG1
	SUCF207FG1
	SUCF208FG1
	SUCF209FG1
	SUCF210FG1
SUCT205FG1	
SUCT206FG1	
SUCT207FG1	
SUCT208FG1	
SUCT209FG1	
SUCT210FG1	

BU Thermo (SE2)	
Picture	P/N
	SUCPPL204FG1
	SUCPPL205FG1
	SUCPPL206FG1
	SUCPPL207FG1
	SUCPPL208FG1
	SUCPPL209FG1
	SUCPPL210FG1
	SUCTBL204FG1
	SUCTBL205FG1
	SUCTBL206FG1
	SUCTBL207FG1
	SUCTBL208FG1
	SUCTBL209FG1
	SUCTBL210FG1
	SUCNFL204FG1
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	SUCNFL210FG1
	SUCFBL204FG1
	SUCFBL205FG1
	SUCFBL206FG1
	SUCFBL207FG1
	SUCFBL208FG1
	SUCFBL209FG1
	SUCFBL210FG1
	SUCFPL204FG1
	SUCFPL205FG1
	SUCFPL206FG1
	SUCFPL207FG1
	SUCFPL208FG1
	SUCFPL209FG1
	SUCFPL210FG1



**BE READY  
FOR A GAME  
CHANGER**



TM



THANK YOU !