



Copyright Thermocompact 2019

1. General specifications	4. Patents
2. Detailed characteristics	5. Tests and comparison performances
3. Usage recommended	6. Benefits resume/availability

1. GENERAL SPECIFICATIONS

THERMO SA® has a special coating that allows high machining speed, and a very clean finish along the cut surfaces. For example, Ra = 0.05 µm in carbide.

THERMO SA® is the market reference.

2. DETAILED CHARACTERISTICS

CORE:	Brass 63/37
COATING:	Gamma CuZn
DIAMETER TOLERANCE:	0 / - 0.002 mm
OVALISATION:	0.001 mm (maxi)
TENSILE STRENGTH:	900 N/mm ²
YIELD STRENGTH:	790 N/mm ²
ELONGATION:	2%
CONDUCTIBILITY:	21% IACS

3. USAGE RECOMMENDED

USE ON MACHINE: GFMS AgieCharmilles Cut 2000, Cut 200.

USAGE RECOMMENDED: Dies and tools, medical, fine mechanic.

MATERIAL: Steel, copper, tungsten carbide, aluminium, nickel, titanium, PCD

4. PATENTS

EP 1 009 574	US 5 945 010	EP 1 949 995
US 8 338 735	CN ZL 2008 1 0009227.7	TW i 350780
CN 101 234 442	JP 5 627 841	KR 10-0981035

Manufactured in Europe by Thermocompact.

5. TESTS AND COMPARISON PERFORMANCES - Realized by Thermocompact R&D Department.

Good performance tests on EDM machines, compared to Bedra and Stamm wires (see next tests for surface finish (Ra), uptime, machining time).

➔ **SURFACE FINISH**

Objectif Ra=0.15 µm:

Wire type	Thermo SA 900 N	TOPAS +H	TOPAS +G	STAMM TE
Main cut time	-5.49%	-7.76%	-0.15%	-8.91%
Trim 1 time	-14.05%	-6.91%	-7.92%	-10.19%
Trim 2 time	-14.05%	-1.42%	-7.06%	-4.39%
Trim 3 time	-9.88%	10.93%	-5.91%	7.21%
Trim 4 time	-7.80%	9.44%	-5.07%	5.42%
Trim 5 time	-6.76%	25.29%	-4.62%	4.64%
Trim 6 time	-6.13%	21.66%	-4.54%	9.89%
Dimensional accuracy Tkm (µm)	Tkm =2,5 µm	Tkm =3 µm	Tkm = 3 µm	Tkm = 4.5 µm
Ra	0.12	0.16	0.12	0.13

Testing conditions :

- Wire diameter : 0,25mm
- Steel material h=60mm
- 1 main cut & 3 finish cuts
- **GFMS Agie Charmilles Cut 2000**
- **Technology: AH**
- Nozzles position : **in contact. Closed contour.**

Tkm (µm) = Precision of dimension between 2 parallel surfaces.

- **Thermo SA 900N** obtains the best Ra.
 ⇒ Ra is not good for TOPAS+H and STAMM TE.

➔ **UPTIME:**

	Standard Brass	Thermo SA 900N	
Time for machining (%)	5h34	4h33	-18%
Rough cutting speed (mm ² /mm)	76	92	+21%
Weight of wire used (grams)	1.337	1.100	-18%
Weight of wire lost in filter (grams)	53	57	+8%
Cost of each piece (machining cost, wire cost...)			-10%

- Testing conditions :**
- Wire diameter : 0,25mm
 - Steel material h= 60mm
 - 1 main cut & 3 finish cuts
 - **GFMS Agie Charmilles Evolution**
 - **Technology: brass**
 - Nozzles position : **in contact. Closed contour.**

- Very high speed manufacturing and very high surface finish
- **Thermo SA 900N** combined to a powerful generator can reduce up to 20% the costs of

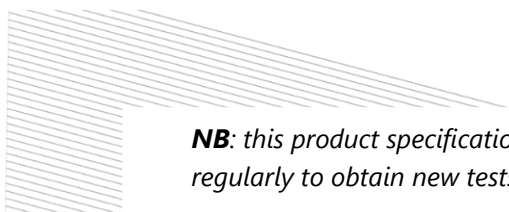
6. BENEFITS RESUME / AVAILABILITY

Thermo SA 900N proven benefits :

- ⇒ Surface finish :
 - Very high surface finish
- ⇒ Machining time
 - Speed, better processing time than HBZ
- ⇒ Competitive advantage secured by patents

AVAILABILITY:

Thermo SA 900N	K100	T125	T160	T200	K250	JP5	JP10	JP15
0,07 mm 0,003"	▪							
0,10 mm 0,004"	▪	▪						
0,127 mm 0,005"		▪	▪			▪		
0,15 mm 0,006"		▪	▪			▪		
0,20 mm 0,008"		▪	▪	▪		▪	▪	▪
0,25 mm 0,010"		▪	▪	▪	▪	▪	▪	▪
0,30 mm 0,012"			▪	▪	▪		▪	▪



NB: this product specification sheet is upgraded on a regular basis, please check it regularly to obtain new tests and comparison performances.