

ISO/IEC 17050

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Quality/ Standard, Mats Hansson, UL

**Date**

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TA Hydronics AB  
SE-524 80 Ljung  
Sweden

Visiting address: Annelund

Phone +46 (0)513 540 00  
Fax +46 (0)513 508 44  
www.tahydronics.com

TO WHOM IT MAY CONCERN

Corp reg No 556033-6256

An **IMI** Company**Statement of Conformity - Ametal®**

We, TA Hydronics AB, SE 524 80 Ljung, Sweden, declare under our sole responsibility that our materials for pressure die-casting, hot stamping and bars, Ametal®, to which this statement relates, are in conformity (meaning are tested and fulfill the requirements) with below stated standards and other normative documents.

- Our **catalogue sheet 0-20-0** 2010.09.
- Ametal® for pressure die-casting, CuZn33Pb2Si-S (CC751S) is listed in **EN 1982**.
- Ametal® for hot stamping and bars, CuZn32Pb2AsFeSi (CW709R) is listed in **EN 12164, EN 12165 and EN 12168**.
- Ametal® is also corresponding to Alloy B according to **BS 5154**.
- Ametal® is tested with regards to dezincification resistance according to **AS 2345, BS 2872** (Appendix E), **BS 2874** (Appendix G), **EN-ISO 6509** and the Nordic requirements laid down in **NKB Product rules No. 12** respectively **No. 18** for metallic fittings and **No. 13** for stop valves.
- Ametal® is type approved to dezincification resistance by the Swedish company SITAC, type approval Nos. **1105/99** for ingots for pressure die-casting and **4378/86** for bar materials. Ametal® is also approved for valves in compressed air, steam- and feed water pipelines by Lloyd's Register of Shipping.
- Ametal® is tested with regards to stress corrosion resistance according to **ISO 6957** and the Nordic requirements laid down in **NKB Product rules No. 12** and **No. 18** for metallic fittings
- Ametal® is tested with regards to extraction of heavy metals from brass components in contact with drinking water according to **WHO Guidelines** for Drinking Water Quality Volume I, **AS/NZS 4020** and the Nordic requirements laid down in **NKB Product rules No. 12** respectively **No. 18** for metallic fittings and **No. 13** for stop valves.
- The mechanical properties of Ametal® like tensile tests, proof tests and elongation at failure are tested according to **BS 18** and **EN 10 0002-2** and **EN 10 0002-5** at room temperature as well as at increased temperature up to 200° C.

Continue of the statement of conformity-Ametal®

- Comparisons of compositions and mechanical properties between Free Machining Brass, (FMB), Gun Metal (Red Brass) and Ametal are shown in tables below,

Table 1 Compositions

Alloying elements	FMB CuZn39Pb2	Gun Metal, cast CuSn5Zn5Pb5-C	Ametal®, die cast CuZn33Pb2Si-S	Ametal®, bars CuZn32Pb2AsFeSi
Cu-Ni (copper + nickel): (%)	58	85	63,0 - 64,0	64,5 - 65,3
Si (Silica): (%)			0,65 – 0,80	0,55 – 0,75
Pb (Lead): (%)	2 -3	5	1,5 – 2,2	1,8 – 2,2
Fe (Iron): (%)			0,25 - 0,50	0,10 – 0,20
Al (Aluminium): (%)			0,02 – 0,06	0 – 0,03
As (Arsenic): (%)			0,04 – 0,08	0,03 – 0,06
Sn (Tin): (%)		5	Max. 0,40	Max. 0,30
Mn (Manganese): (%)			Max. 0,15	-
Ni (Nickel) : (%)			Max. 0,40	Max. 0,20
Zn (Zinc): (%) (Rest)	39	5	31 -33	
Other impurities: (%)			Max 0,2	Max 0,2

Table 2 Mechanical properties

Material property	FMB	Gun Metal, cast	Ametal®, die cast	Ametal®, bar
UTS, R <sub>m</sub> , (N/mm <sup>2</sup> )	500	200	470	470
Yield strength, R <sub>p0,2</sub> , (N/mm <sup>2</sup> )	400	90	280	340
Elongation, A <sub>5</sub> , (%)	20	13	16	20
Hardness, (HV)	150	70	120	145
Dezincification resistance	Poor	Excellent	Excellent	Excellent
Sensitivity to stress corrosion	High	Very low	Low	Low

- Our Quality, Environmental and Occupational Health & Safety management systems are certified by SP Technical Research Institute of Sweden in accordance with **ISO 9001**, **ISO 14001** and **OHSAS 18001**. Certificate numbers 2125, 2125 M and 2125 O.
- Our conformity assessment procedure is according to **Module H** of the **Pressure Equipment Directive (PED) 97/23/EC**. The notified body used is INSPECTA Sweden AB (previous DNV), No. 0409. Certificate No. PPC 22513.

TA Hydronics AB  
Quality & Environmental



Mats Hansson  
Quality & Environmental Manager



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