

In-Depth Know-How

# CADMIUM FREE, INTERMEDIATE TEMPERATURE BRAZING ALLOY A 333



**In-Depth Know-How** – As a leading brand of soldering and brazing consumables, Fontargen Brazing offers proven solutions based on 50 years of industrial experience, tried and tested processes and methods. This In-Depth Know-How has made Fontargen Brazing an internationally preferred partner for every soldering and brazing task.

# A 333

## Costs saving through silver content reduction

Fontargen Brazing focuses entirely on soldering and brazing and on the customers' requirements in this field. With the cadmium free, intermediate temperature brazing alloy they offer good wetting and excellent mechanical properties at an optimized cost situation.

Suitable for ferrous and nonferrous base materials. Can be used for the brazing of carbide tools.

Joint-brazing at working temperatures of  $-200\text{ }^{\circ}\text{C}$  on austenitic and  $-70\text{ }^{\circ}\text{C}$  on ferritic steels.

The temperature resistance of solder joints is further dependent from design (gap geometry) and the base materials to be soldered and possibly demonstrate, through an examination process.

In terms of quality the cadmium free, intermediate temperature brazing alloy A 333 can be seen as an alternative to the products A 319, A 340 or A 320 (details in the table below), but offers the advantage of cost savings due to the reduction of silver content.



### Alloy comparison of alternative brazing alloy for the heating and cooling industry

	A 333		A 319		A 340		A 320	
ISO 17672	Ag 230a		Ag 134		Ag 140		Ag 145	
EN ISO 3677	B-Cu36AgZnNi 676-788		B-Cu36AgZnSn 630-730		B-Ag40CuZnSn 650-710		B-Ag45CuZnSn 640-680	
Composition [in weight %]	Ag = 30.0 Zn = Bal.	Cu = 36.0 Ni = 2.0	Ag = 34.0 Zn = 27.5 Si = 0.15	Cu = 36.0 Sn = 2.5	Ag = 40.0 Zn = 28.0 Si = 0.15	Cu = 30.0 Sn = 2.0	Ag = 45.0 Zn = 25.5 Si = 0.15	Cu = 27.0 Sn = 2.5
Melting range [°C]	676 - 788		630 - 730		650 - 710		640 - 680	
Tensile strength [MPa]	488		480		430		430	
Elongation [%]	36		12		20		12	
Spec. Gravity [g/m <sup>3</sup> ]*	9.17		9		9.1		9.2	

A333: Notch impact energy (DIN EN 10045T1): 138 J (-75 °C until +100 °C)

voestalpine Böhler Welding Fontargen GmbH

Siemensstr. 4, 67304 Eisenberg

T. +49 6351 401 0, F. +49 6351 401 149

www.voestalpine.com/welding

voestalpine

ONE STEP AHEAD.