Cleaning of Henkel LOCTITE GC 18 solder paste using ZESTRON cleaners

All cleaning trials were conducted at ZESTRON's Application Technology Centres and illustrate the performance of different cleaning agents in combination with standard spray-in-air and ultrasonic equipment.

ZESTRON conducts comprehensive cleaning trials in its European, American and Asian Technical Centres. In collaboration with leading, global equipment manufacturers, ZESTON's Technical Centres are featured with state-of-the-art cleaning processes such as spray-in-air, ultrasonic and spray-under-immersion. Therefore, ZESTRON's Technical Centres are most suited to perform any cleaning trials.

The following cleaning testing has been conducted in co-operation between Henkel and ZESTRON Application Technology Centres. Prior to these results, the board cleanliness level had been assessed successfully in accordance to the following standards:

Customer requirement	Methodology/Tools	Industry Standard
Visual cleanliness	Keyence VHX microscope, 20 to 200x magnification	IPC-A-610
Free of organic flux activators	Selective organic flux activators detection – ZESTRON® Flux Test	IPC-TM-650
Free of resin/rosin	Selective flux resins detection ZESTRON® Resin Test	Evaluation based on J-STD-001

Solder paste (unsoldered)									
		VIGON®				HYDRON®	ATRON®	ZESTRON®	
		SC	SC 200	SC 202	SC 210	SC 300	SP 200	SD 100	SD 301
LOCTITE GC 18	**SAC305 T4 885V**	+	+	+	+	+	+	+	+

Solder paste (reflowed)										
		VIGON®								
		A 200	A 201	N 600	N 640	PE 180	PE 190A	PE 200	PE 215N	US
LOCTITE GC 18	**SAC305 T4 885V**	o	o	o	o	-	o	-	n	o

Solder paste (reflowed)							
		HYDRON®		ATRON®		ZESTRON®	
		SE 220	SE 230A	AC 205	AC 207	FA+	VD
LOCTITE GC 18	**SAC305 T4 885V**	o	o	o	o	o	o

Result key	
+	Easily removable with standard process parameters
o	Removable with process optimization (e.g. with additives and/or longer cleaning time) or other ZESTRON cleaning agents
-	Difficult to remove with this cleaning agent, process optimization necessary
n	Not yet tested

Process parameters (depending on cleaning application): 2-10 minutes at 20-50°C / 68-122°F

Results of following cleaning agents were obtained in:

Spray-in-air cleaning process
VIGON® A 200, VIGON® A 201, VIGON® N 600, VIGON® N 640, VIGON® PE 180, VIGON® PE 190A, VIGON® PE 200, VIGON® SC, VIGON® SC 200, VIGON® SC 202, VIGON® SC 210, HYDRON® SC 300, ATRON® AC 207, ATRON® SP 200, ZESTRON® SD 100, ZESTRON® SD 301

Ultrasonic cleaning process
VIGON® US, HYDRON® SE 220, HYDRON® SE 230A, ZESTRON® FA+, ZESTRON® VD