



PROTAVIC INTERNATIONAL WORLDWIDE

EUROPE		EUROPE		ASIE	
AUSTRIA	PROTEX WARENHANDELSGES .M.B.H. A-1030 WIEN Tel : (43) 01 73 93 864 Fax : (43) 01 71 37 552		ICROM INDUSTRIA CHIMICA 20049 CONCOREZZO (Mi) Tel : (39) 039 604 08 36 Fax : (39) 039 604 17 42 icrom@icrom.com	HONG-KONG	PROXASIA Ltd TSUEN WAN, N.T., HONG KONG Tel : (852) 2407 5699 Fax : (852) 2408 7185 proxasia@netvigator.com
BELGIUM	PROTEBEL B-1040 BRUXELLES	NETHER-LANDS	PROTEX NEDERLAND BV Godfried Bomansstraat 7 Postbus 291 NL – 41000 AG Culemborg Tel. : 0345-544666 Fax : 0345-544661	SOUTH KOREA	PROTEX KOREA Co Ltd 661-32 - YEOKSAM-DONG- GANGNAM-GU - SEOUL, 135-080 Tel : (82) 02/3453 8213 Fax : (82) 02/3453 8082 yklee@protekkorea.co.kr
DANMARK	PROX KEMI APS 1879 FREDERIKSBERG C	PORTUGAL	PROX LDA 4470 MAIA Tel : (351) 22 9415019 Fax : (351) 22 9415022		PROTAVIC KOREA 1675-1, SHINIL-DONG, DAEDUCK-KU DAEJOEN, 306-230 KOREA Tel : (82) 42 933 5590 Fax : (82) 42 933 5594 cwsohn@protavic.co.kr
FRANCE	AQUAPROX 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com	UNITED KINGDOM	PROTEX CHEMICALS Ltd Howley Park Road East, Morley, Leeds, LS 27 OSW Tel : (44) 0113 238 3222 Fax : (44) 0113 238 3111 sales@protexchemicals.com	THAÏLAND	THAI PROX Ltd KLONGTOEY - BANGKOK 10110 Tel : (66) 2 254-9562 / 656-9568-9 Fax : (66) 2 254-9563 pga@thaiprox.co.th
	BIOPROX 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com		CHROMATECH Division of Protex Chemicals Ltd Howley Park Road East, Morley, Leeds, LS 27 OSW Tel : (44) 0113 238 3222 Fax : (44) 0113 238 3111 admin@chromatech.co.uk	INDONESIA	PT PRODIAN CHEMICALS BANDUNG - WEST JAVA 40222 Tel : (62) 22 594 5628 Fax : (62) 22 594 5626 / 27 prodian@bdg.centrin.net.id
	PROTAVIC INTERNATIONAL 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com	SWEDEN		CHINA	SINO-PROX CHEMICALS GAOYAO Ltd GUANGDONG - 526 100 Tel : (86) 758 8363 318 Fax : (86) 758 8361 052 sinoprox@pub.zhaoqing.gd.cn
	PROTEX 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com	SWITZER LAND	PROTEX-SVERIGE AB GOTEBORG Tel : (46) 53110314 Fax : (46) 53110314		SHANDONG PROX-CHEM SPECIALTY CHEMICALS Co., Ltd. RUSHAN City, PROVINCE SHANDONG - 266071 Tel : (86) 532 8588 3862 Fax : (86) 532 8588 3932
	PROTELOR 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com		PROTEX-CHIMIE S.A. BIRKENSTRASSE 49 6343 ROTKREUZ (CH) Tel : (41) 061-302 0066 Fax : (41) 061-302 0076		SUZHOU PROX-CHEM SPECIALTY CHEMICALS Co., Ltd. Tangxi Road 23, New District SUZHOU JIANGSU – 215 500 Tel : (86) 512 6532 1636 Fax : (86) 512 6532 0906
	SYNTHRON 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com				PROTAVIC CHINA Tangxi Road 23, New District SUZHOU JIANGSU – 215 500 Tel : (86) 512 6532 1636 Fax : (86) 512 6532 0906
	J et E SOZIO-DESCOLLONGES 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 41 34 14 00 Fax : 33 (0) 1 41 34 14 16 postmaster@protex-international.com	USA	FAR RESEARCH Inc. PALM BAY (FL) 32905-2548 Tel : (1) 321 723 6160 Fax : (1) 321 723 8753 far_research@bellsouth.net		PROTAVIC CHINA Tangxi Road 23, New District SUZHOU JIANGSU – 215 500 Tel : (86) 512 6532 1636 Fax : (86) 512 6532 0906
	BOURIGEAUD INDUSTRY 92305 LEVALLOIS-PARIS Tel : 33 (0) 1 47 48 02 33 Fax : 33 (0) 1 47 48 06 14 postmaster@protex-international.com		J & E SOZIO Inc. EDISON (NJ) 08820-1102 Tel : (1) 908 755 7488 Fax : (1) 908 755 6006 J.E_SOZIO@att.net		TAIWAN
	LOGI-INDUSTRIE 28150 OUARVILLE Tel. : 33 (0) 1 41 34 14 00 Fax: 33 (0) 1 41 34 14 22		PROTAVIC America Inc. 8 Ricker Avenue NH03053 LONDONDERRY Tel : (1) 800 807 2294 Fax : (1) 800 807 2294 info@protavicamerica.com www.protavicamerica.com		HERZER CO., LTD 2Fl., No. 131 YANSHOU ST., SUNGSHAN CHIU, TAIPEI 105 TAIWAN Tel : (886) 02 3765 2789 Fax : (886) 02 3765 2788
GERMANY	PROTEX EXTROSA D-79504 LÖRRACH Tel : (49) 07621/84772 Fax : (49) 07621/12429		PROX-CHEM America Inc. 1077 13 th Street SE Hickory, NC 28602 Tel : (1) 828 322-7003 Fax : (1) 828 322-7006 randycox@proxcheminc.com		PROTAVIC TAIWAN N°2 66 th ALLEY LUN DING 2 nd STREET KUI-ZEN HSIANG TAINAN COUNTY 711 TAIWAN Tel : (886) 6 230 7392 dw_twn@hotmail.com
SPAIN	QUIMOPROX S.L. 08187 SANTA EULALIA DE RONCANA (Barcelone) Tel : (34) 93 844 66 94 Fax : (34) 93 844 77 37				
ITALY	PROX-ITALIA PRODOTTI CHIMICI Srl Via Alfonso Casati, 49 – Arcore (MI) Tel : (39) 039 601 21 75 Fax : (39) 039 618 83 69 proxitalia@proxitalia.it	MAROCCO	SPECHIMA 20600 CASABLANCA - AIN SEBAA Tel : 212 22 35 65 07 - 212 22 34 34 98 Fax : 212 22 35 92 40 spechima@menara.ma		



PROTAVIC[®] ACH 20120

6-28053

DEFINITION

The electrically conductive **PROTAVIC[®] ACH 20120** adhesive is designed for BGA packages and LED dies **PROTAVIC[®] ACH 20120** presents excellent properties of flexibility, good adhesion and moisture resistance, no voids which allow package 10 withstand 260°C Pb-free reflow temperature. More over **PROTAVIC[®] ACH 20120** reaches high electrical conductivity and good thermal conductivity for heat removing Its specific reactivity combines both Latency al room temperature and fast curing cycle.

PRODUCT DESCRIPTION

Appearance	Viscous liquid	
Odor	Slight	
Color	Sliver	
Guaranteed specifications	Standards	Method
Cone and plate viscosity (5 rpm - 25°C)	9 000 ± 1500 mPa.s	NFT 51211
Other information		
Pot life* at 20 ± 2°C	> days	
Volume resistivity	0.03 mΩ.cm	
Density	4.5 approx.	
Thixotropy index	4.0	
Possible curing cycles	30 minutes at 175°C 2 minutes at 230°C	
Storage stability	1 year at T<-20°C	

* : defined as 100% viscosity increase.

APPLICATION PROPERTIES

PROTAVIC[®] ACH 20120 adhesive features excellent hot/wet adhesive properties. Its good latency enables it to be kept at 20±2°C for 1 day with a little increase of viscosity, so the viscosity remains virtually unchanged throughout the working day.. The long pot life and the absence of solvent ensure that the product remains at a reasonably constant viscosity and facilitate application.

PROTAVIC® ACH 20120 may be oven cure at moderate temperature (175°C) and also snap cured when heated at 220-230°C.

METHOD OF USE

- 1) Take the package out of the freezer not more than 1 hour before use in order to prevent any re-absorption of moisture.
- 2) Work on clean surfaces or clean all surfaces in order to remove any dirt or grease. Do not deposit the adhesive on a substrate which has just been cleaned with chlorinated solvents.
- 3) Apply the adhesive (by dispensing)
- 4) Cure using one of the curing cycles compatible with the components, the substrate and the manufacturing conditions.

FIELDS OF USE

The excellent properties of **PROTAVIC® ACH 20120** adhesive make it especially suitable for use in structural sticking where softness, void-free bondline, moisture resistance and thermal resistance are required.

1- PHYSICO-CHEMICAL PROPERTIES

Properties		Methods	Results
Weight loss by TGA	At 200 °C At 300°C	TGA 1	0.4% 0.8%
Tg by TMA		TMA 1	10°C
Coefficient of thermal expansion α_1 α_2			98 ppm/°C 126 ppm/°C
SHORE D hardness		NFT 51109	85D
Volume resistivity		ECA 1	0.03 mΩ.cm
Moisture absorption (168 hours @ 85°C/85% Hr)		R 0802	0.15%
Young modulus		Dynamic mechanical thermal analysis	1.64 GPa at 25°C 200 MPa at 100°C 75 Mpa at 250°C

Die shear strength at 25°C oven cure (30 minutes at 175°C)	7.2 kg/die	2x2 mm ² (80x80mil ²) Si die on Ag plated Cu frame
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Die shear strength at 250°C	6.1 kg/die 7.5 kg/die	3.5x3.5 mm ² (140x140mil ²) Si die on Ag plated Cu frame 6.35x6.35 mm ² (250x250mil ²) Si die on Ag plated Cu frame
Die shear strength at 250°C after 85°C moisture saturation exposure for 1 day.	5.5 kg/die 7.0 kg/die	3.5x3.5 mm ² (140x140mil ²) Si die on Ag plated Cu frame 6.35x6.35 mm ² (250x250mil ²) Si die on Ag plated Cu frame

PRECAUTION IN USE

Refer to the attached material safety data sheet.

PACKAGING

PROTAVIC[®] ACH 20120 adhesive is supplied in 40 g and 125 g syringes.

The information contained in this data sheet corresponds to the present state of our knowledge ; it is intended for your guidance but we are not bound by it since we are not in a position to exercise control over the manner in which our products are used. Moreover, the attention of the user is drawn to the risks that could possibly occur should a product be used for an application other than that for which it is intended.