

Almit Technology

Tomorrows Technology Today.
Global Soldering Solutions with
Local Supply Partners.

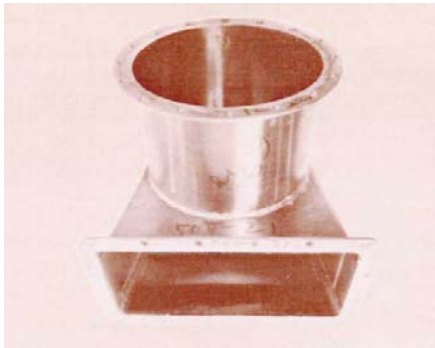
Do you know who ALMIT are?

- 1956

- NIHON ALMIT Co., Ltd. was founded in Tokyo/Japan, as a manufacturer of aluminum solder.
- “aluminum is impossible to solder!” was a common feeling in the world at that time.
- However, after intensive research ALMIT developed a **new metal composition** and a **new flux** for soldering to aluminum.

- 1958

- This aluminum solder and flux were selected as “Remarkable Invention of the year” by the Ministry of Science and Technology in Japan.



● 1976

- One Japanese Automobile instruments manufacturer requested us to develop a cored solder wire capable of joining Ni-Cr wire to Bi-metal.
- They had asked other large solder companies if they could do this, however, none could do it.
- The reason was easy; they started to use only chlorine as an activator.
- ALMIT could do it, because they knew many another kinds of activators very well because of their experience in developing an aluminum solder/flux.
- As a result, ALMIT invented “KR-19” cored solder wire, which is **chlorine free** and can easily solder to Ni-Cr wire and bi-metal.



- 1982
 - ALMIT introduced this new chlorine free solder, “KR-19”, to the USA.
 - “KR-19” was approved as “KR-19 RA” by the FEDERAL spec. in USA.
 - Moreover, an improved “KR-19 RA” was approved as “KR-19 RMA” by US MILITARY spec.
 - NASA selected “KR-19 RMA” for the SPACE SHUTTLE.
- For last 23 yrs Almit have continued to develop high performance wires/pastes/fluxes

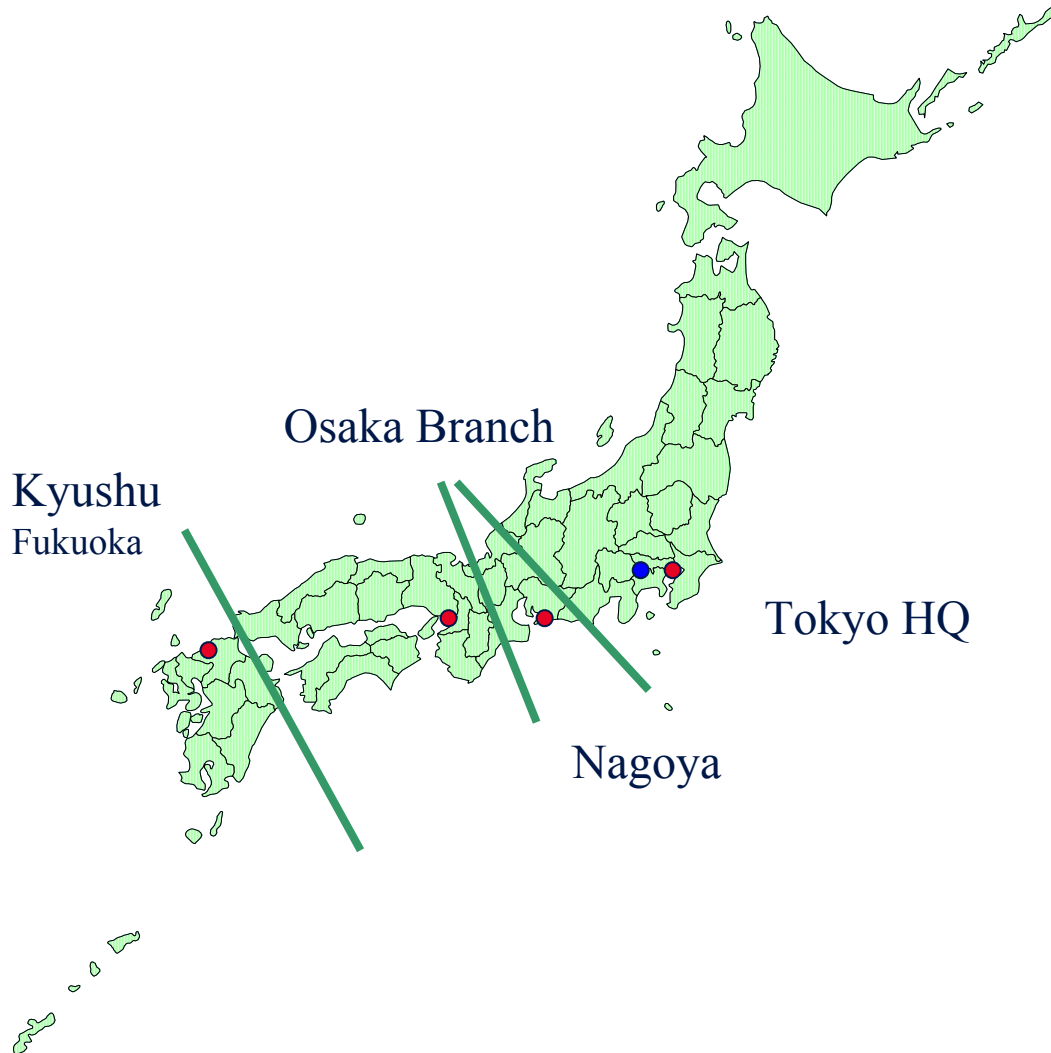


ISO Approvals



- Almit Japan
 - ISO9001
 - ISO14000
 - DoD2002 (USA)
- Almit China
 - ISO9001
- Almit UK
 - ISO9002
- Almit Sweden
 - ISO9002

Locations and Activity



Head Quarter

Sales and administration
Tokyo

Sales Office

Osaka
Kyushu
Nagoya

R&D

Tokyo

Production and Distribution

Yamanashi

World Wide Network

EUROPE

Almit Technology (UK)

Almit AB (Sweden)

Almit GmbH (Germany)

Hubreh Electronics (Holland)

Elestekno Oy (Finland)

Almit France

ASIA

Almit Industries Korea

NYP Trinity Limited (HK, China)

Z Kuroda Singapore

Z Kuroda Thailand

Almit China

Z Kuroda Shanghai

Kuroda Hoyo (Phils.), Ltd.

Taiwan Almit Co. Ltd.

AMERICA

Seika Machinery Inc.

Almit Worldwide Summary

- **ALMIT HQ/R&D/MANUFA.-TOKYO**
 - Other Offices in OSAKA, KYUSHU, NAGOYA
- **WORLDWIDE NETWORK**
 - Almit Korea, Almit Taiwan, (Manufacture/Tech Support & Sales)
 - Almit China (Manufacturing, Tech Support, Stock & Sales)
 - Almit UK (Manufacturing, Tech Support, Stock, Sales)
 - Almit Germany (Stock, Technical Support & Sales)
 - Almit AB Sweden (Stock, Technical Support & Sales)
- **AGENTS/DISTRIBUTORS**
 - Z KURODA in Singapore/Thailand/Shanghai
 - Seika Co. in USA

Almit Europe

- Mainland Europe Stockholding Distributors
 - Dubreh Electronics (Holland)
 - Teletekno Oy (Finland)
 - PAN Europe (Italy/Hungary/Austria/Switzerland)
- UK Stockholding Distribution
 - R W Greeff
 - Cromwell Tools

Almit R & D (approx. 100 scientists)

- All products developed in Japan
 - Ideal situation as they probably have the most advanced assemblies and demanding assembly needs
 - Manufacturing in Japan relatively high cost, so must get assemblies ‘right first time’ to keep costs low
- Almit have process partners who evaluate all NEW products for production robustness
 - High Reliability applications and consumer goods
 - Sony / Fujitsu / Omron / Ericsson Base Stations / Toyota
 - When product launched it is fully market tested and not a development product.

Paste Manufacturing Chart

Ingredient
checking

Metal, chemical compound
Purity must be over 99.9%

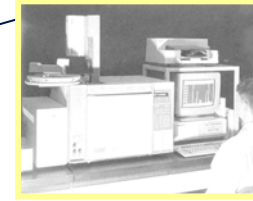


Preparation of
flux



Flux quality
checking

Flux resistivity,
SIR, Corrosion,
Tack, Thixotropy



Production
Mixing process



Clean room

Test prior to
delivery

Solder ball, viscosity
Corrosion, spreadability,
Tack, thixotropy.

Delivery



Keep lot sample
for 20 years.

Almit Technical Support Structure

- First Contact
 - Phone your local contact -----
- Next
 - Discuss with Almit Tech Staff in UK/Europe/Japan
 - Almit Tech Staff
 - Graham Cooper (13 yrs) Peter Martin (+20 yrs)
 - Chris Ward (+25 yrs) Roland Olson (+25 yrs)
 - Gunnar Nielson (+5 yrs)
 - **ALL VERY EXPERIENCED IN PRODUCTION PROCESSES**
- Arrange Visit
 - 24-48 hrs
- Review Action with Customer 1 week/month later

Almit Testing Services

- During the move to lead free Almit can offer the following services:
 - Process Optimisation
 - Joint Sectioning
 - Joint X Ray Inspection
 - Joint Strength Testing
 - Temp Cycling / Humidity Testing
 - EPMA elemental analysis of joint
- Report is issued with full data and conclusions
 - Timescale depends on tests required

Almit Training Seminars.

- Basics of Soldering
- Manual Solder Training
- SMT Process Training
 - Entire SMT Process
- Lead Free Processing
 - SMT / WAVE / MANUAL Soldering
 - Manual Solder Training
 - 5 groups of 10 operators, 2 hour seminar over 5 mornings

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- Visit Almit web site www.almit.com for
 - Product Range
 - Product Specifications
 - Product Safety Data Sheets
 - Lead Free Info
 - Do not miss Almit BM1 gel flux
 - The best in the industry for BGA/CSP attach
 - Do not miss Almit lead free cored wires
 - Fast wetting
 - High reliability clear flux residues

Almit Europe Case Study

- ERICSSON
 - 1993 Evaluated @ 20 tin/lead/silver pastes
 - Reliability / Printing / Production tests
- 2 Pastes performed the same
 - ALMIT V14L was one of them
- Selected the other paste as it was cheaper per kg
- Ran for 2-3 months with **many** problems
 - Lots of soldering process / defects
 - Paste had unstable viscosity
 - Paste performed different batch to batch making pcb production unstable
 - This cost Ericsson a lot of time and money and threatened their reputation on product quality

Almit Europe Case Study

- ERICSSON then moved to Almit Paste
 - 1993 began using Almit V14L
 - Soon realised it was the 'perfect paste'
 - Reduced solder defects by 20% and warranty returns reduced significantly
 - Every pot / batch identical to all previous batches
- Still used in 95% Ericsson / Contractor sites
 - Europe consumes > 20 tonnes paste /yr
 - At peak over 40 tonnes paste / yr
- Ericsson never rejected or complained about any Almit paste batches
- Almit never missed a delivery date in @ 12 years. Deliver every 2 weeks to some sites and monthly to contractors.

Almit Europe Case Study

- ERICSSON / CONTRACTOR Sites
 - Sweden
 - UK
 - Estonia
 - Finland
 - Poland
 - Russia

Almit Europe Case Study

- ERICSSON Lead Free
 - Evaluated many lead free pastes
 - Only 3 passed their tests
 - Almit performed the best in print trials
 - Almit best in DEK Proflo system
- Ericsson's 1st Choice Pb Free Paste
 - LFM 48 TM-HP

Almit Europe Case Study 2

- On Board Electronics (UK)
 - Family run contractor
 - Low / medium volume manufacturing
 - Use @ 5kg paste / month
 - Used Almit V14L since 1997
- Always evaluating other pastes
 - Switched to Indium Corporation SMQ92
 - Received 2 batches in consecutive months. One was unusable due to being too 'viscous'. Replaced it with another batch which performed poorly.
- Returned to Almit V14L and now evaluating Almit Pb Free

Some European Almit Users

- Expice
- Schoonderbeek Electronics
- Eaton Automotive
- Pemstar *
- Harmen Becker *
- Siemens Fujitsu *
- VTI *
- Filtronic Comtek *
- Omron *
- HVD
- Faber Electronics
- Honeywell Controls
- Thales

Almit Committed to...

- Developing Innovative Soldering Products
- Working with **Key Account Customer** to
 - Improve process performance
 - Reduce process defects
 - Increase productivity
 - Increase profitability
- Process Training
 - Share Almit's lead free production process experience
- Thank You for your attention. Any Questions ?