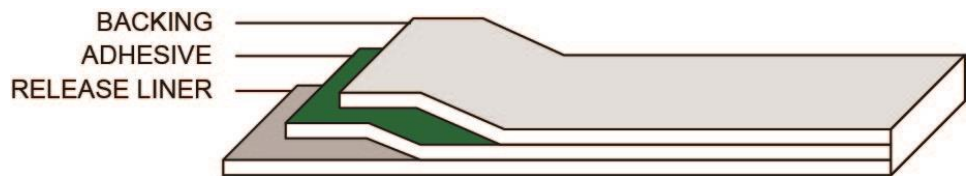


ARcare® 90038 is a highly conductive pressure sensitive adhesive, supported by a tin coated copper, electronic grade foil carrier. The foil carrier possesses oxidation and corrosion resistance to undesirable byproducts generated during elevated temperature encapsulation of photovoltaic modules and over the life of said modules. The conductive filler package also allows for direct Z axis contact between the tin coated copper and the substrate of interest. ARcare® 90038 provides an ideal balance of adhesion and electrical performance.

**PRODUCT APPLICATIONS**

The typical use for this product is as a bus bar for photovoltaic applications. It is also suggested for use in EMI shielding for cellular phones, computers, PDA’s, disk drives, modems and automotive electronics. It may also be used for cable assembly shielding for satellites, electronic vehicles and robotics and for seaming in architectural applications.



**FEATURES AND BENEFITS**

- Able to withstand elevated temperature and thermal cycling when encapsulated in photovoltaic module
- No pre-tack step required
- Thin consistent bond line
- Conforms to the topography of ‘imperfect surfaces’ providing excellent contact
- Conductive PSA forms strong immediate bonds

Product Construction			
	Typical Values*		Description
Liner thickness	2.0 mil	50 µm	Clear polyester release liner
Adhesive thickness	1.0 mil	25 µm	Highly conductive PSA
Substrate	1.4 mil	35 µm	Electronic grade tin coated copper foil
Total thickness	2.4 mil	60 µm	(excluding liners)

\*All stated values are nominal and should only be used as a guide for selection. They are not specifications.

**Product Information Sheet**  
**ARcare® 90038**



Technical Properties			
Attribute*	Typical Values*		Test Method*
Peel adhesion on stainless steel	45-65 oz/in	12 -18 N/25mm	180 degrees, 12 ipm, 1 hr. dwell
Static Shear	> 30 min		½" x ½", 500 grams
Liner Release	20 -40 gms/2"		180 degrees, 300 ipm
Flame Retardancy	Pass		PER UL 510
Electrical Properties	~5 amps		Current Carrying Capability <sup>1</sup>
Electrical Properties	1.6 x 10 <sup>-8</sup> Ω/-m		Volume Resistivity (calculated) <sup>2</sup>
Electrical Properties	4.8 X 10 <sup>-4</sup> Ω/□		Sheet Resistance <sup>3</sup>
Recommended storage of unconverted product	70°F ± 20°F 50% ± 20% RH	21°C ± 11°C 50% ± 20% RH	
Shelf life of unconverted product	Not to exceed one year from date of manufacture		

\*All stated values are nominal and should only be used as a guide for selection. They are not specifications.

1. Approximate value based on 0.50" X 0.25" area.
2. Calculated from four point probe sheet resistance. Test Method: ART 15093.
3. Four point probe placed on adhesive surface of 0.5" wide sample. Probes spaced 0.5" apart.

Accelerated Aging Performance			
Conditioning	180° Peel Stainless Steel <sup>1</sup> (oz.in)*	180° Peel Glass <sup>1</sup> (oz/in)*	Volume Resistance <sup>2</sup> (milliOhm)*
RT-1 week age	78	80	4.96
65°C-1 Week Age	85	90	5.37
120°C-1 Week Age	66	62	3.82

1. Samples conditioned 1 week @ specific temperature. Samples tested @ 12" per minute.
2. Calculated from four point probe sheet resistance. Test Method: ART 15093

# Product Information Sheet

## ARcare® 90038



Note: The information contained on this data sheet is based upon test results of limited quantities of this material and may be modified by Adhesives Research following additional production experience and evaluation. This data should not be used in preparing specifications. Products identified as developmental may be subject to modification by Adhesives Research, Inc.

#### APPLICATION AND STORAGE OF PRESSURE-SENSITIVE ADHESIVE TAPES

Pressure-sensitive adhesive tapes function as a mechanical product; however, the adhesive itself is a chemical composition that can be sensitive to environmental conditions. A purchaser of pressure-sensitive adhesive products should be aware of the shelf life of each product and not purchase more than it can use before the expiration date. Shipping and storage conditions affect shelf life. The optimum storage temperature is 70 °F (21 °C). Cool, dry storage is recommended.

#### For best results...

- 1) The surfaces you wish to bond should be clean and free of oil, moisture and dust. If the surface temperature is below 40°F, it may be difficult to achieve a proper bond.
- 2) Do not use a pressure-sensitive adhesive product where it will be exposed to temperatures lower or higher than those designated for each product. Heat can destroy the effectiveness of the bond and extreme cold can cause the adhesive to harden and not adhere properly.
- 3) When the tape is applied, use firm hand or lamination pressure to achieve contact between the adhesive and the surface to which it is applied. Hand rollers or nip rollers may be needed for certain products or applications.

Consult your AR sales representative if you need additional information.

#### THIS IS NOT AN OFFER

This Product Information sheet ("PI Sheet") is not an offer to sell by Adhesives Research ("AR") and does not contain any binding warranties or terms of sale. While this PI Sheet does contain technical information and general warranty information, this PI Sheet is non-binding and is for information purposes only. If you wish to purchase the product set forth on this PI Sheet ("Product"), or have any questions regarding the warranty or other terms related to this Product, contact AR customer service or a sales representative and they will provide you with AR's terms of sale for the Product in the form of a Sales Order Acknowledgment. AR shall not be bound by any terms or information set forth in this PI Sheet.

#### DISCLAIMER OF WARRANTIES

AR's warranty on product is limited to the warranty set forth in the Sales Order Acknowledgment. **NOTHING SET FORTH IN THIS PRODUCT INFORMATION SHEET SHALL CONSTITUTE A WARRANTY OF ANY KIND AND EXCEPT AS SET FORTH IN THE SALES ORDER ACKNOWLEDGMENT, AR EXPRESSLY DISCLAIMS ALL WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No provisions, statements, diagrams, drawings or pictures contained in any product literature, price list, catalogue, purchase order, product data sheet, order acknowledgment, invoice, delivery ticket, or any other communication by AR, including information on AR's website or statements made by AR's employees or agents, constitute express warranties. Results of tests and recommendations included in communications of AR do not constitute express warranties. **MANY FACTORS MAY AFFECT THE USE AND PERFORMANCE OF AN AR PRODUCT IN A PARTICULAR APPLICATION, INCLUDING, AMONG OTHERS, THE PRODUCT SELECTED FOR USE, THE CONDITIONS IN WHICH THE PRODUCT IS USED, THE TIME AND ENVIRONMENTAL CONDITIONS IN WHICH THE PRODUCT IS EXPECTED TO PERFORM, THE MATERIALS TO BE USED WITH THE PRODUCT, THE SURFACE PREPARATION OF THOSE MATERIALS, AND THE APPLICATION METHOD FOR THE PRODUCT; THEREFORE, PURCHASER ACCEPTS RESPONSIBILITY FOR DETERMINING WHETHER AR'S PRODUCT IS FIT FOR A PARTICULAR PURPOSE AND SUITABLE FOR PURCHASER'S METHOD OF APPLICATION.** AR retains the right to modify or change its products if in AR's judgment it is advisable.

AR limits the purchaser's remedies in the event of a breach of any warranty. The purchaser's exclusive remedy and AR's obligations for a breach of any warranty shall be as set forth in the Sales Order Acknowledgment.

ARcare®, ARclad®, ARclean®, ARflow®, ARseal®, ARclear® are registered trademarks of Adhesives Research, Inc. Adhesives Research® is a registered service mark of Adhesives Research, Inc. for engineering and design services in the field of pressure-sensitive adhesive systems.

©2003 Adhesives Research, Inc. Printed in USA.

(Revised 16 May 2020)

#### North America – Headquarters

**Adhesives Research, Inc.**  
400 Seaks Run Road  
Glen Rock, PA 17327  
Phone: +1 (717) 235-7979  
Toll-free: +1 (800) 445-6240  
Fax: +1 (717) 235-8320

#### Europe

**Adhesives Research Ireland, Ltd.**  
Raheen Business Park  
Raheen, Limerick  
V94 VH22 Ireland  
Phone: +353 61 300 300  
Fax: +353 61 300 700

#### China

**Adhesives Research China Co., Ltd.**  
Room 2710-2711, Building B  
Far Glory International Square  
No. 317 Xianxia Road  
Shanghai, China 200051  
Phone: +86 (21) 6150 4358  
Fax: +86 21 6278 5576

#### Singapore

**Adhesives Research PTE Ltd.**  
60 Paya Lebar Road  
#04-04 Paya Lebar Square  
Singapore 409051  
Phone: +65 6774 9580  
Fax: +65 6777 7261