



## Advances in Support Unit

Comparison of Advant<sup>®</sup> 1  
Advant<sup>®</sup> A 8 Advanced 1-1  
Advant<sup>®</sup> A 8 Advanced 1-1  
Advant<sup>®</sup> A 8 Advanced 1-1

## PRODUCT DEVELOPMENT POINT

### PREPARED BY

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## INTRODUCTION

In order to provide for a friendly and user-friendly introduction to our customers, we have developed a new easy-to-use Araldite® 2015-1, which is a two-part, high-strength adhesive. The two parts are mixed by hand or with a mechanical mixer to form a single, uniform mixture. The mixture is then applied to the surfaces to be joined. The process is simple and can be carried out by anyone. The resulting joint is strong and durable. The process is simple and can be carried out by anyone. The resulting joint is strong and durable.

## RESULTS & DISCUSSION

In order to test the adhesive, a series of tests were carried out. The results of the tests are shown in the table below. The tests were carried out at a temperature of 114 °C. The results of the tests are shown in the table below. The tests were carried out at a temperature of 114 °C. The results of the tests are shown in the table below.

### Functional properties

|           | Hardener HV 5309-1 (Araldite 2015) | Hardener HV 5309-2 (Araldite® 2015-1) |
|-----------|------------------------------------|---------------------------------------|
| Aspect    | Black                              | Black                                 |
| Viscosity | Thick                              | Thick                                 |
| Mix Ratio | 1:1 by volume                      | 1:1 by volume                         |

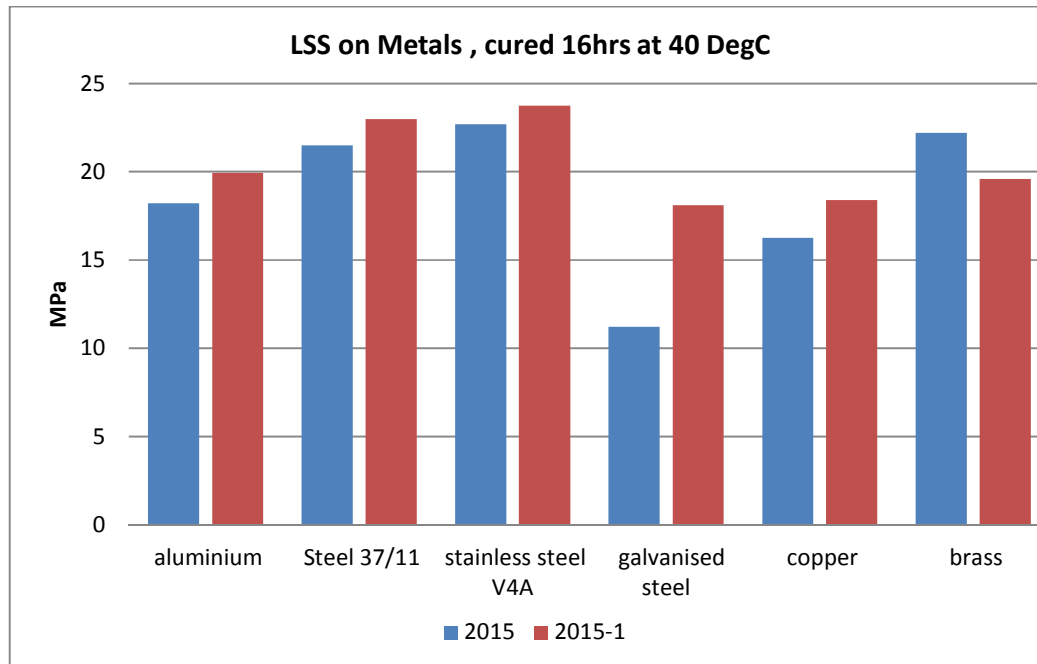
### Reactivity

|                  | Araldite® 2015 | Araldite® 2015-1 |
|------------------|----------------|------------------|
| Pot life (100 g) | 8 hours        | 4 hours          |

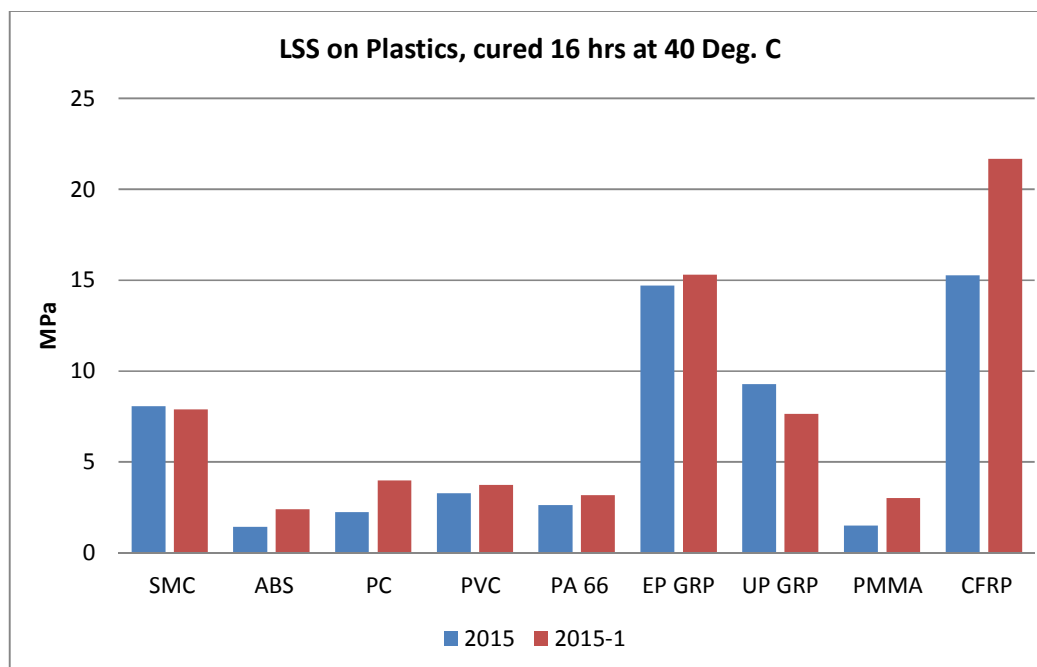
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| Time to reach Lap Shear Strength | Araldite® 2015 | Araldite® 2015-1 |
|----------------------------------|----------------|------------------|
| 1 MPa @ 1 °C                     | out            | out              |
| 1 MPa @ 1 °C                     | 1 out          | 1 out            |
| 1 MPa @ °C                       | 4 out          | 4 out            |
| 1 MPa @ °C                       | 8 out          | 8 out            |
| 1 MPa @ 4 °C                     | 1 out          | 1 out            |
| 1 MPa @ 4 °C                     | out            | out              |

### Lap Shear Strength (LSS) on different substrates (ISO 4587)



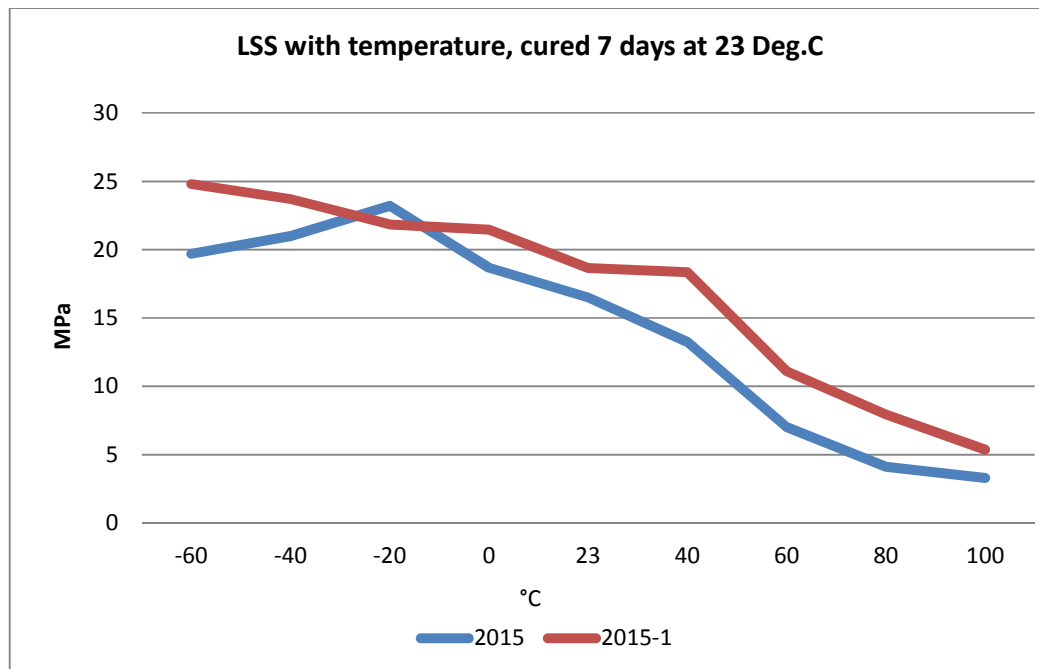
*Metal substrates : sandblasted & degreased with acetone*



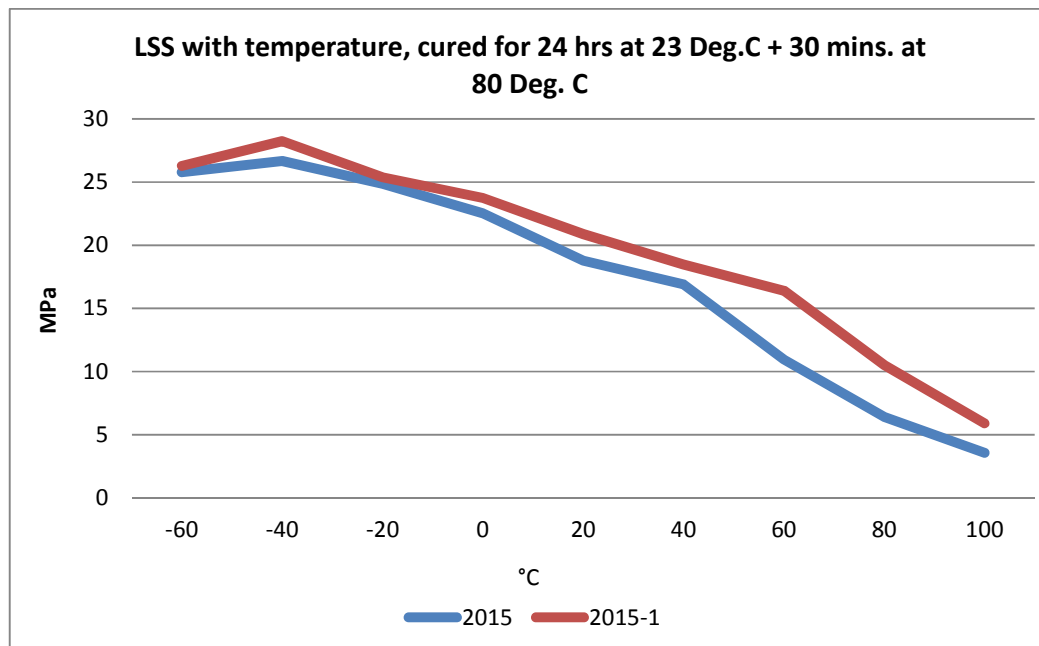
*Plastic substrates : abraded & degreased with isopropanol*

## Lap Shear Strength vs temperature (ISO 4587)

Cure 7 day at 23°C



Cure 4 hrs at 23°C + 30 mins. at 80°C



**Tensile properties (ISO 527)**

Cur 1 out a 4°C

|                  | Tensile modulus<br>(MPa) | Tensile strength<br>(MPa) | Elongation at break<br>(%) |
|------------------|--------------------------|---------------------------|----------------------------|
| Araldite® 2015   | 1 MPa                    | 4                         | .7                         |
| Araldite® 2015-1 | 1 MPa                    | 1                         | 4.                         |

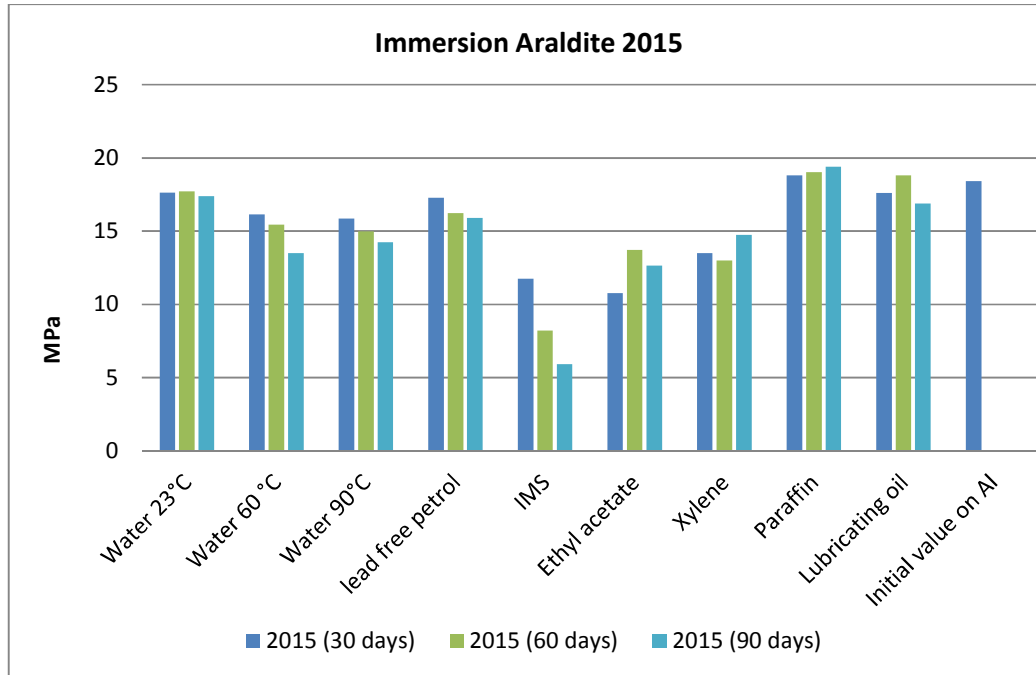
**Flexural properties (ISO 178)**

Cur 1 out a 4°C

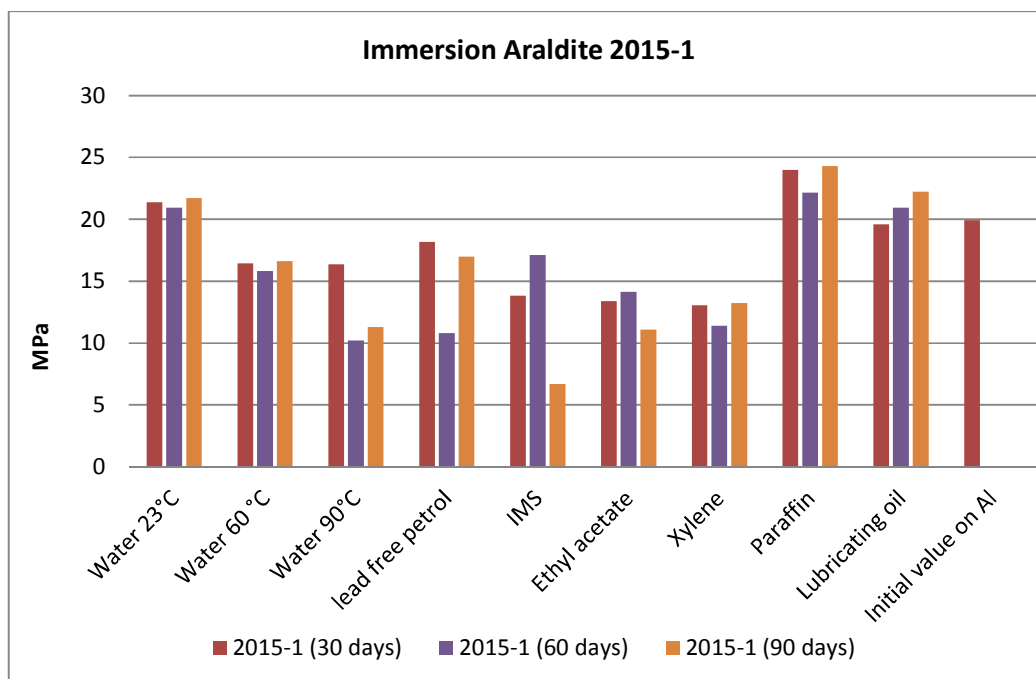
|                | Flexural modulus<br>(MPa) | Flexural strength<br>(MPa) |
|----------------|---------------------------|----------------------------|
| Araldite® 2015 | 1                         |                            |

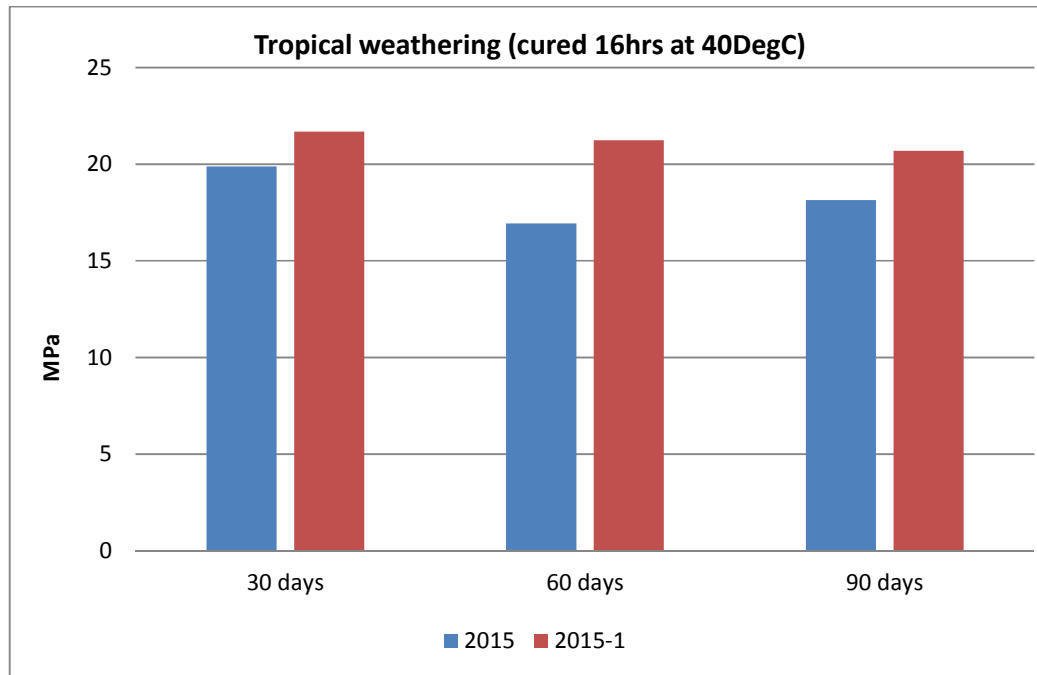
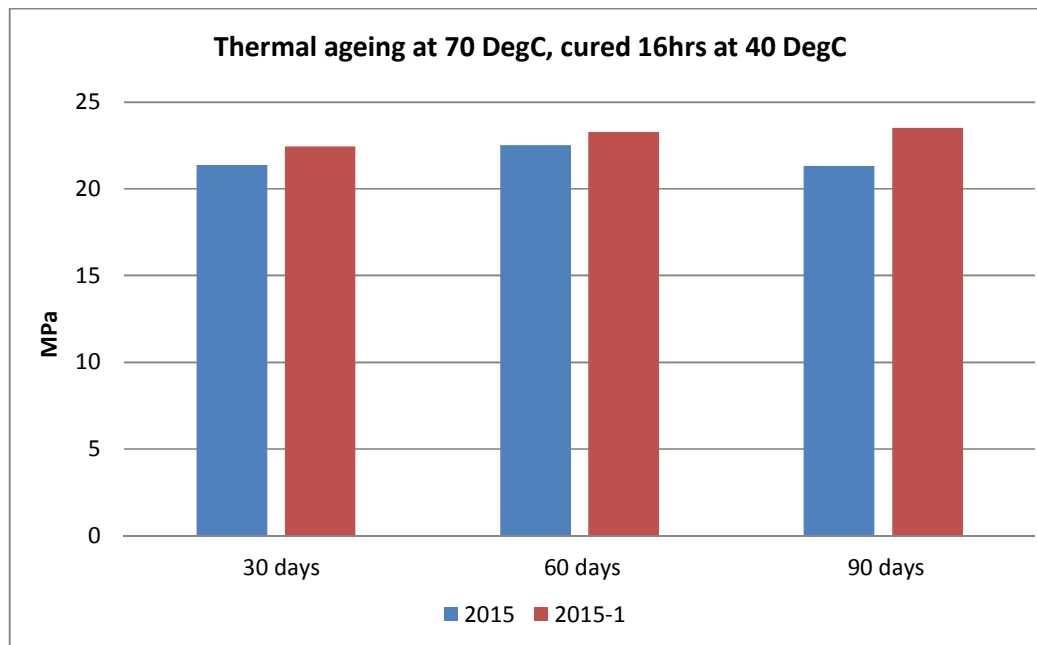
## Chemical resistance : ageing tests - immersion in different media

Araldite®  
 Cure 1 our at 40°C



Araldite®  
 Cure 1 our at 40°C



**Climatic testing : tropical weathering (40°C/92% humidity)****Thermal resistance : heat ageing at 70°C**

## CONCLUSION & RECOMMENDATIONS

Huntsman Advanced Materials® 41-1 is a highly pure, high quality, high strength and high performance polyethylene. It is a high performance polyethylene product used in a wide range of applications.



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Huntsman Advanced Materials

Huntsman Advanced Materials is a leading manufacturer of high quality, high strength and high performance polyethylene. It is a high performance polyethylene product used in a wide range of applications.

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The Huntsman Advanced Materials is a leading manufacturer of high quality, high strength and high performance polyethylene. It is a high performance polyethylene product used in a wide range of applications. **nothing herein is to be construed as a warranty, whether express or implied, including but without limitation, as to merchantability or fitness for a particular purpose. In all cases, it is the responsibility of the user to determine the applicability of such information and recommendations and the suitability of any product for its own particular purpose.**

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