

Technical Data Sheet: AEROK 9110 (R)

Product Description

Aerok 9110 (R) is a two component low density adhesive/filler developed for bonding composite and aluminium honeycomb panels. Suitable for filling/bonding internal or external kerf cuts in curved panels.

Key Features

- Low Density
- High Compression Strength
- Cartridge system, allows for easy application without mixing by hand





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Typical Physical Properties

Uncured

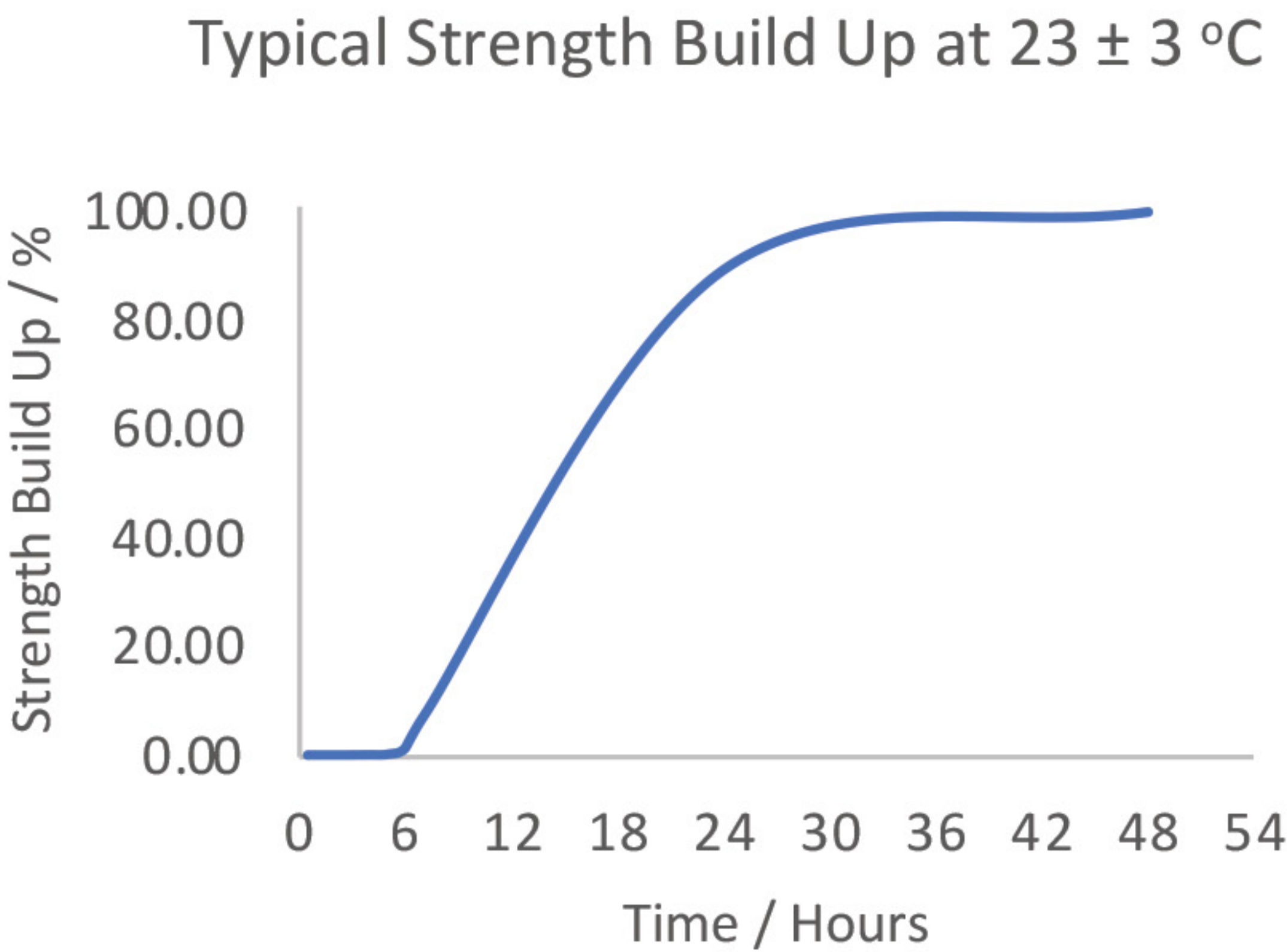
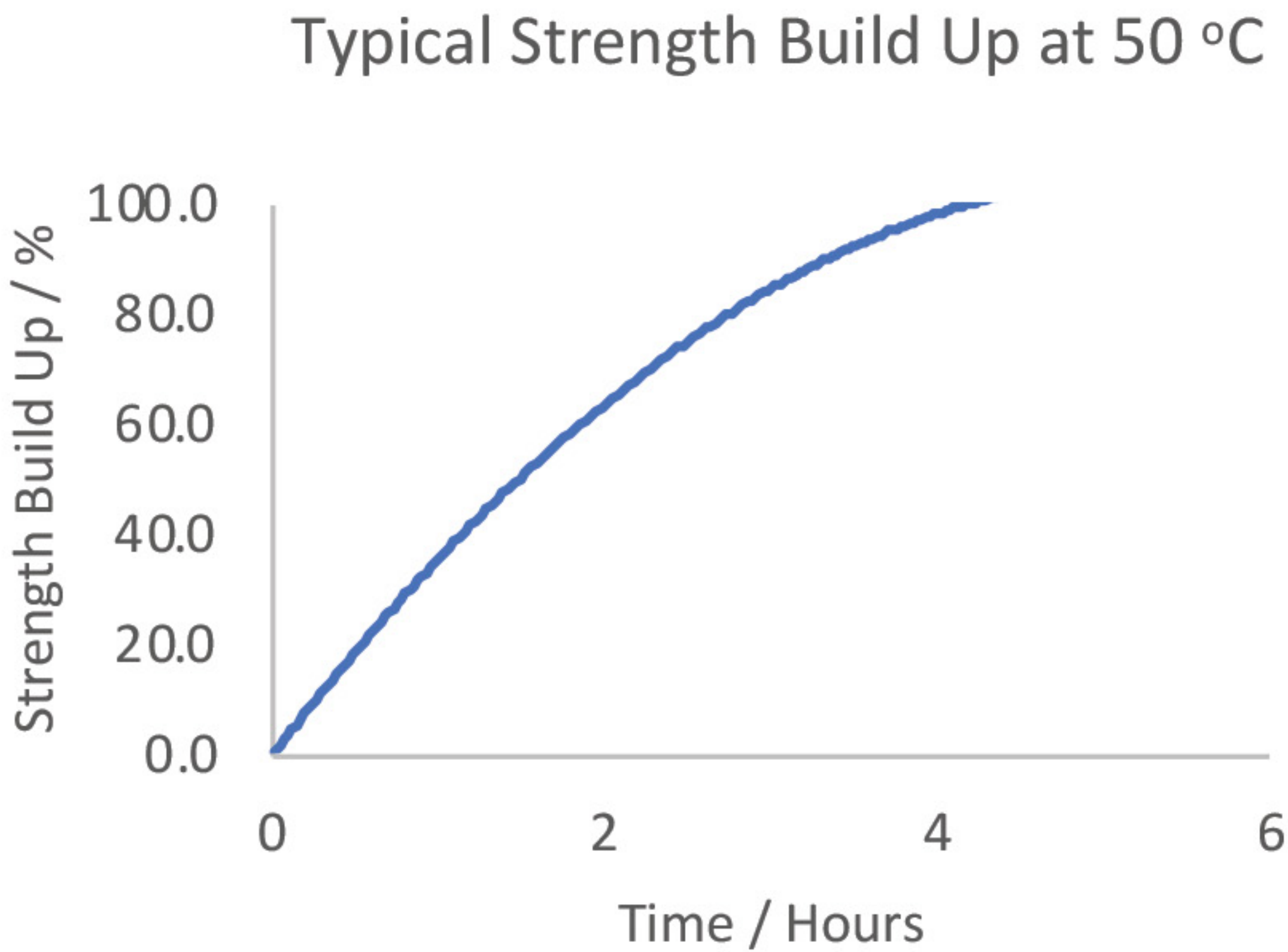
Properties	Part A	Part B
Chemistry	Epoxy-Resin	Amine-Hardener
Colour	White	Ox-Red or Black
Viscosity @ 5 s ⁻¹	140,000	110,000
Density [g/ml]	0.71	0.69
Mix ratio by volume	2	1

Mixed

Properties	Aerok 9110 (R)
Colour	Light Red or Grey
Mixed Density / g ml ⁻¹	0.70 ± 0.03
Working Time	≥ 2 Hours
Handling Time (Minumin time to acheive >0.3 MPa overlap shear strength)	≥ 6 Hours
Time to rech Full Strength	48 Hours

Rate of Strength Build Up

Overlap shear specimens of grit blasted aluminium were bonded with overlap dimensions of 12.5 x 25 x 0.5 mm (Length x width x thickness). Test specimens were pulled apart at various time intervals and the lap shear strength recorded.



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Overlap Shear Strength

In accordance with ISO4587

Properties	Value
Tensile Strength at Break[MPa]	20
Percentage Elongation at Break [%]	11
E-Modulus [MPa]	400

Overlap shear specimens were bonded with overlap dimensions of 12.5 x 25 x 0.5 mm (length x width x thickness). Bonded lap shear was cured in an oven at 50 oC for 3 hours before being tested.

Hardness

Tested in accordance with ASTM D2240

Properties	Value
Shore D Hardness	75

Shore D hardness measured on a 7mm thick sample of cured adhesive

Compression Strength

In accordance with ASTM D695

Test Temperature / °C	Compressive Strength / MPa
23 ± 3	40-45

Adhesive was extruded through static mixer nozzle to give a cylinder with diameter of 15.8 mm and length 31.6 mm. Samples were cured for >48 hours at 23 oC

Temperature Performance

Overlap Shear Strength

In accordance with ISO4587

Overlap shear specimens were bonded with overlap dimensions of 12.5 x 25 x 0.5 mm (length x width x thickness). Each specimen was allowed to cure for 3 hours at 50 oC before being subjected to various temperature exposures.

Short Term Exposure at Temperature

Test specimens exposed to the test temperature for 5 minutes and pulled apart at the test temperature. Pull rate 6 mm/min.

Substrate	Surface Prep	Test Temp (°C)	Shear Strength (MPa)	% Strength Retention (% against 25oC strength)
Aluminium	Grit Blasted	-50	19.17	90
Aluminium	Grit Blasted	25	21.32	100
Aluminium	Grit Blasted	50	17.09	80
Aluminium	Grit Blasted	75	15.31	72
Aluminium	Grit Blasted	100	5.42	25
Aluminium	Grit Blasted	125	4.89	23

All substrates used to create a lap shear specimen were 3mm in thickness

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Colours

Red or Grey.



Shelf Life

12 months in unopened packaging in a cool and dry storage place at temperatures between +15°C and +25°C / +59°F and +77°F

Application Instructions

Weigh out A and B components in correct proportions. Mix components together with hands (wear disposable gloves - talc free) thoroughly and ensure no streaking in product is evident. Fill edges/voids, etc. Product can be tooled with spatula/tooling ball dipped in water. Repair with Aerok 9110. We recommend preliminary compatibility tests prior to application.

Volumes Available.

Cartridges
50ml
200ml
400ml



Bulk



Health and Safety Recommendations

As with all epoxy products, avoid skin and eye contact and apply the usual industrial hygiene.

Check the packaging for more information or see MSDS

Remarks, Disclaimer & Health and Safety

Disclaimer - The variability of materials, substrates and conditions of use is such that no warranty of their functionality for a specific application can be deducted from this information, written recommendation or any other type of suggestion offered. Each user has the responsibility to complete adequate evaluations on the efficacy of the materials offered by Forgeway, of its products, services, recommendations and suggestions for the specific application need, and must accomplish sufficient testing to ascertain that the final product will be safe and sound for the final intent of the end user.

Health and safety - Refer to Safety Data Sheet (SDS) for further information. Apply the usual industrial hygiene.

Reviewed July 2023