



FORGEWAY
GLUE WITH HIGH IQ



Technical Data Sheet: AEROK 8010

Product Description

Aerok 8010 is a two-component structural epoxy adhesive. It is designed for applications that require a clear and very fast curing structural adhesive.

Key Features

- Fast room temperature cure
- Clear formulation
- Low viscosity allowing for easy extrusion
- High lap shear strength
- High hardness
- Suitable for bonding most prepared metals, plastics and composites



Applications

- Applications that require a fast-curing structural adhesive.
- Suitable for applications that require a clear adhesive for aesthetic bonding of small components.

Volumes Available.

Cartridges
50ml
200ml
400ml



Bulk





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Typical Physical Properties

Uncured

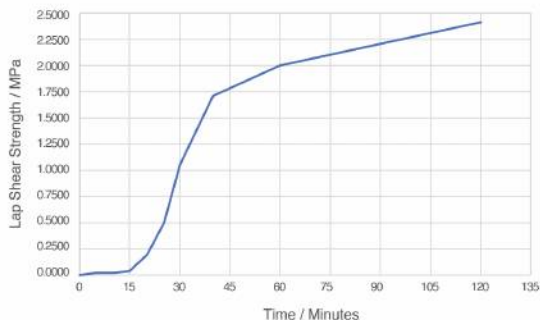
Properties	Part A	Part B
Chemistry	Epoxy	Mercaptan
Colour	Clear	Light Yellow
Viscosity @ 5 s -1	12,000 - 15,000	17,000 - 25,000
Density (g/ml)	1.16	1.09
Mix ratio by volume	1	1
Mix ratio by weight	1	1

Mixed

Properties	Aerok 8010
Colour	Clear
Working Time	<4 Minutes
Handling Time (Minimum time to achieve >0.3 MPa overlap shear strength)	15 - 20 Minutes
Time to reach Full Strength	24 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 different times after the adhesive was mixed to determine the rate of strength build up as the product cured.





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Tensile Properties

In accordance with
ASTM D638

Properties	Value
Tensile Strength at Break(MPa)	8
Percentage Elongation at Break [%]	150

Tensile properties measured on 3mm thick dumbbell specimens
at a rate of 5mm/min

Hardness

Tested in accordance
with ASTM D2240

Properties	Value
Shore D Hardness	75-85

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

Typical Performance Characteristics

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 7 days @ 20oC 50%RH before being pulled apart at a rate of 6mm/min for metals and 50mm/min for plastics and composites.

Substrates	Surface Prep	% Strength Retention (% against 25°C strength)	Failure Mode
Aluminium	IPA Wiped	7.0	AF
	Abraded (120G)*	15.0	AF
	Grit Blasted*	22.0	AF
Anodised Aluminium	IPA Wiped	8.0	AF
	Grit Blasted*	15.0	AF
Stainless Steel	IPA Wiped	9.0	AF
	Grit Blasted*	19.0	AF
Mild Steel	IPA Wiped	2.0	AF
	Grit Blasted*	15.0	AF
E-Galvanised Steel	IPA Wiped	10.0	AF
	Grit Blasted*	22.0	AF
Hot-Dip Galvanised Steel	IPA Wiped	9.0	AF
	Abraded (120G)*	13.0	AF
GRP - Epoxy	IPA Wiped	8.0	AF
GRP - Polyester	IPA Wiped	8.0	SF
PMMA	IPA Wiped	2.0	AF
	Abraded (120G)*	3.0	AF
Polycarbonate	IPA Wiped	3.0	AF
	Abraded (120G)*	4.0	AF
ABS	IPA Wiped	3.0	AF
	Abraded (120G)*	4.0	AF

IPA: Isopropyl alcohol, *Abraded (120G) = IPA wipe, abrade with 120 grit paper, IPA wipe. CF: Cohesive Failure, AF: Adhesive Failure, SF: Substrate Failure



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Typical Performance Characteristics

Overlap Shear Strength - Curing at Temperature

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 at specified temperature for 3 days. Samples were removed from heat and allowed to return to ambient temperatures before being tested at a rate of 6 mm/min.

Substrates	Surface Prep	Temp. of Oven / °C	Avg. Overlap Shear Strength / MPa
Aluminium	Grit Blasted*	50	24.0
		75	27.0

(RA: Isopropyl alcohol; *Abrasive (D05) = RA wipe, abrade with 120 grit pad; RA wipe CF: Cohesive failure; AF: Adhesive failure; SF: Substrate failure)

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 days @ 20°C 50%RH 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 6mm/min.

Substrates	Surface Prep	Test Temp [°C]	Shear Strength	% Strength Retention (% against 20°C strength)
Aluminium	Grit Blasted *	-50	16.3	75
Aluminium	Grit Blasted *	-16	18.6	86
Aluminium	Grit Blasted *	25	21.7	100
Aluminium	Grit Blasted *	50	9.5	44
Aluminium	Grit Blasted *	75	3.7	17
Aluminium	Grit Blasted *	100	2.2	10
Aluminium	Grit Blasted *	120	1.5	7
Aluminium	Grit Blasted *	150	1.5	7
Aluminium	Grit Blasted *	200	1.5	7

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

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 June 2023