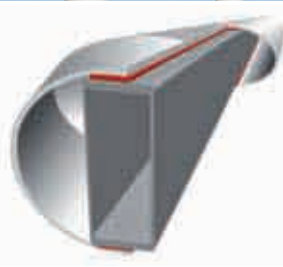


Blade bonding with Macroplast UK1340



New freedom in the bonding process of rotor blades: So far most rotor blades certified by Germanischer Lloyd were bonded with epoxy adhesives. This has changed. Intensive work based on Henkel's broad knowledge of polyurethane adhesives led to the **1st ever Germanischer Lloyd certified polyurethane adhesive: Macroplast UK 1340.**

Apart from the new blade bonding generation, Henkel offers

- » Mold release agents
- » Vacuum bagging tape
- » Special adhesives for bonding bolts, studs and metal inserts in composite, as well as fast cure adhesives for repair operations
- » Threadlocking adhesives to secure screws, studs and nuts
- » Elastic sealants and adhesives with high UV and weather resistance to ensure long life when exposed to harsh conditions (e.g. at sea)

Bonding blades, sealing towers and flanges to protect the nacelle are just some examples of the solutions that Henkel offers for the wind industry.



Macroplast UK 1340

The new freedom in blade production

By nature, polyurethane adhesives:

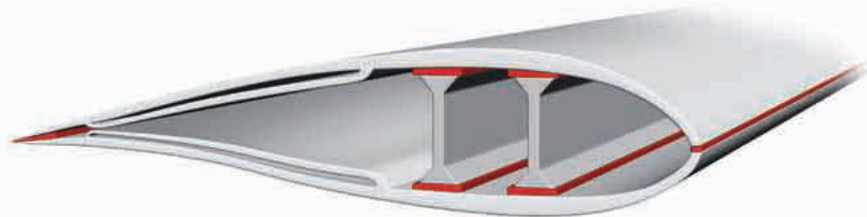
- » Allow fast curing, even at ambient temperature
- » Show a drastically low exothermic peak
- » Have an excellent wetting capability
- » Can easily be adapted related to curing speed

Based on the different behavior of polyurethane, the blade manufacturer can now:

- » Increased productivity due to a better utilization of the molds, as Macroplastic 1340 cures much faster
- » Substantially reduce the tempering time and temperature (i.e. cut his energy bill)
- » Minimize the tendency for stress cracking substantially
- » Decrease preparational work like sanding or pre-lamination
- » Adjust the manufacturing process individually based on particular process and material requirements

Henkel enables competitive high quality solutions!

Macroplast UK 1340



Henkel Asia-Pacific & China Headquarters
Henkel (China) Co.,Ltd.
Tel : +86-21-2891 8999
Fax : +86-21-2891 8971

Henkel Korea Ltd.
Tel:+82-2-3279-1700
Fax:+82-2-3273-4663

Henkel (Malaysia) Sdn Bhd
46/F, Menara Telekom
(South Wing)
Tel:+60-3-2246-1000
Fax:+60-3-2246-1188

Henkel Indonesien
Talavera Office Park Level 21
Tel : +62-21-7592 4626
Fax : +62-21-2758-6900

Henkel Japan Ltd.
Henkel Technology
Center-Asia-Pacific
Tel:+81-45-758 1800
Fax:+81-45-758-1851

Henkel (Thailand) Ltd.
Tel:+66-2-209-8000
Fax:+66-2-209-8008

Henkel Singapore Pte Ltd.
Tel:+65-6266 0100
Fax:+65-6266 1161

Henkel Philippines Inc.
Tel:+63-2-807-6992
Fax:+63-2-850-4763

Henkel Taiwan Ltd.
Tel:+886-2-2227 1988
Fax:+886-2-2226-8699

Henkel Chembond
Surface Technologies Ltd.
Tel : +91-22-6614 3219
Fax : +91-22-2768 1294



The data contained herein are intended as reference only. Please contact your Henkel Technical Support Group for assistance and recommendation on specifications for these products. SHQ-ASG-290 (09/2009)