



**AkzoNobel**



## Embracing the fibers with Kayabrid

The latest in high-value technology, AkzoNobel's Kayabrid provides a stronger binding between the polymer matrix and fillers or polar polymers, while delivering excellent mechanical properties. Kayabrid serves as a compatibilizer for glass fiber reinforced polypropylene, wood plastic composites, polypropylene alloys and multilayer films and sheets.

The unique combination of high molecular weight, high grafted maleic anhydride and a low content of free maleic anhydride offers you many benefits including:

- Substantial improvement of mechanical properties
- Significant lower dosage levels than other coupling agents
- Lower VOCs emissions

[akzonobel.com/polymer](https://www.akzonobel.com/polymer)

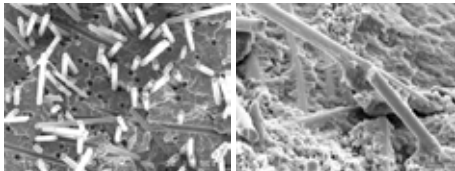
# A better choice of compatibilizer

## Applications

Kayabrid can be used as coupling agent between polypropylene and polar fillers such as glass, wood, mica, talc, natural fiber, carbon fiber, paper, or polar polymers such as polylactic acid or polyamides.

The main applications of Kayabrid are: Glass Fiber Reinforced Polypropylene (GFRPP), Wood-Plastic Composites (WPC) and high loaded Halogen Free Flame Retardant (HFFR) cables, but can also be used as compatibilizer for non-filled polymer alloys and tie layers in multilayer films.

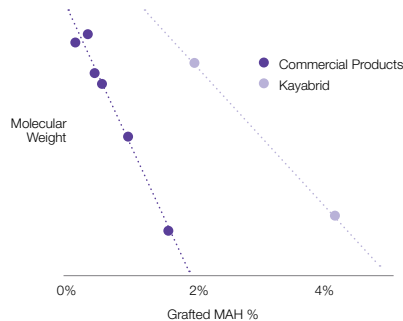
Product	Molecular weight	Grafted MAH	Free MAH
Kayabrid	> 50 000	2%	very low
Commercial products (A, B)	> 50 000	< 0.5%	low
Commercial products (C, D)	< 50 000	> 0.5%	high



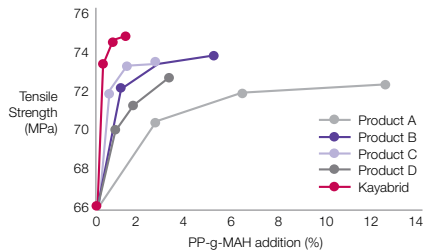
30% glass fiber reinforced PP: (left) no coupling agent; (right) 2% Kayabrid coupling agent.

## Performance

Comparison of Kayabrid with conventional coupling agents:



Combination of high molecular weight and high MAH grafted ratio in Kayabrid (4% grafted ratio is a development grade).



Higher mechanical properties at lower loadings with Kayabrid coupling agent.

The outstanding combination of high molecular weight, high grafted ratio and low free maleic anhydride gives many advantages:

- Lower loadings of coupling agent needed in the compound (down-gauging)
- Higher mechanical properties at lower loadings of coupling agent
- Lower VOCs emissions during processing

## Success stories

Customers reported much better performance of Kayabrid compared with competitors' products:

- 40-50% higher Izod impact strength
- 50-80% reduction in amount of compatibilizer

To benefit from our compatibilizers, contact your AkzoNobel account manager or

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