

November 25, 2019

DIC Corporation

DIC Develops Versatile *DUALAM*[™] Fast-Curing Solvent-Free Adhesive and Innovative Solvent-Free Lamination System

-Solvent-free technology contributing to reduce CO₂ emissions-

Tokyo, Japan - DIC Corporation and its subsidiary DIC Graphics Corporation announced today they have successfully developed an instant curing solvent-free adhesive for general purpose packaging, *DUALAM*[™]. The instant curing technology is a result of collaborative innovation together with Fuji Kikai Kogyo Co., Ltd. who was responsible for the design and creation of a solvent-free lamination machine perfectly suited for *DUALAM*[™].



DUALAM[™] applications

The DIC Group is guided by DIC's new medium-term management plan, DIC 111, which directs the Group to work towards providing environmentally-friendly products as well as economic value as a part of its ongoing innovation. Global warming, climate change and other environmental issues demand an increased attention to sustainability matters which influence the packaging and adhesive industries. In light of these important issues, the DIC Group has made significant strides towards reducing its environmental impact and has developed numerous solvent-free adhesives with low-volatile organic compound (VOC).

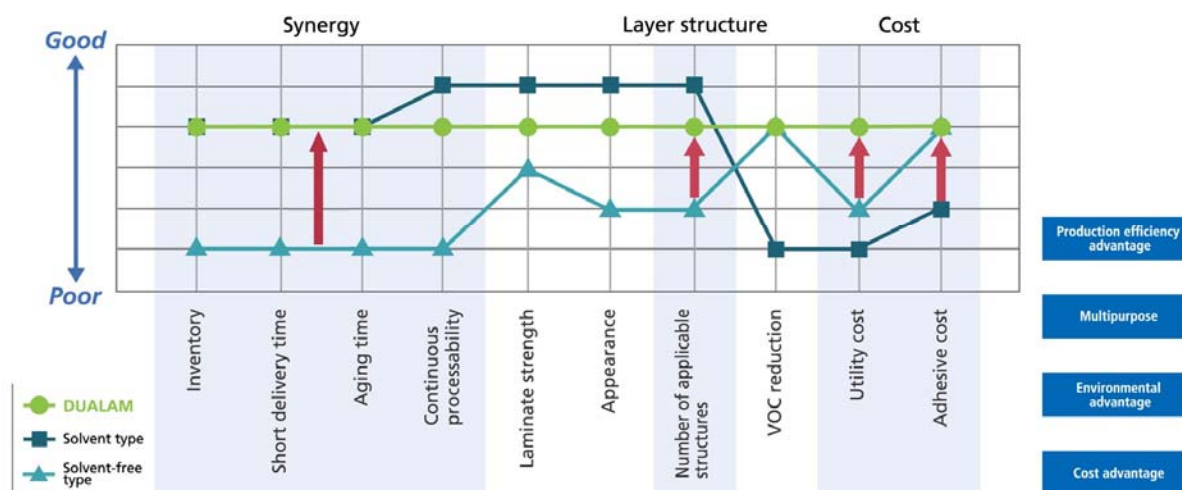
In addition to its efforts to increase the sustainable packaging and adhesives products portfolio, the DIC Group also focused on practical matters such as increasing the versatility of adhesives used in packaging solutions but has faced challenges finding ideal curing speeds and stable lamination processes. Further, the resulting adhesives were, until now, only suitable for use with lightweight packaging materials.

DIC is pleased to announce the successful development of a fast-curing solvent-free adhesive, *DUALAM*[™], offering several advantageous performances as follows:

- Wider applications for lamination structure (multi-layered applications).

- Instant curing and shortened aging time of the laminated film.
- Longer pot life of the adhesive.
- Lower emission of VOC and CO₂.
- Improved appearance of the laminated film.

Comparison between adhesive types



In collaboration with a packaging converter, Nihon Packaging Material Co., Ltd., the DIC Group plans to test *DUALAM*TM for more diverse packaging applications with a target market entrance as soon as 2020 with an aim to achieve JPY 9.0 billion annual sales by 2025.

Reference:

Fuji Kikai Kogyo Co., Ltd.

Representative: Takamasa Wada, President and CEO

Headquarters: 3-17, Mokage 2-chome, Fuchu-cho, Aki-gun, Hiroshima 735-0029, Japan

Date of establishment: July 1951

Website: <https://english.fujikikai.co.jp/>

Nihon Packaging Material Co., Ltd.

Representative: Yuichi Yumoto, President and CEO

Headquarters: 2100-30 Kami-Yoshihara, Saitama 340-0121, Japan

Date of establishment: October 1963

Website: <http://www.nippake.com/index.html> (Japanese only)