



Release Solutions for I-BOND® MDI Based Wood Panels

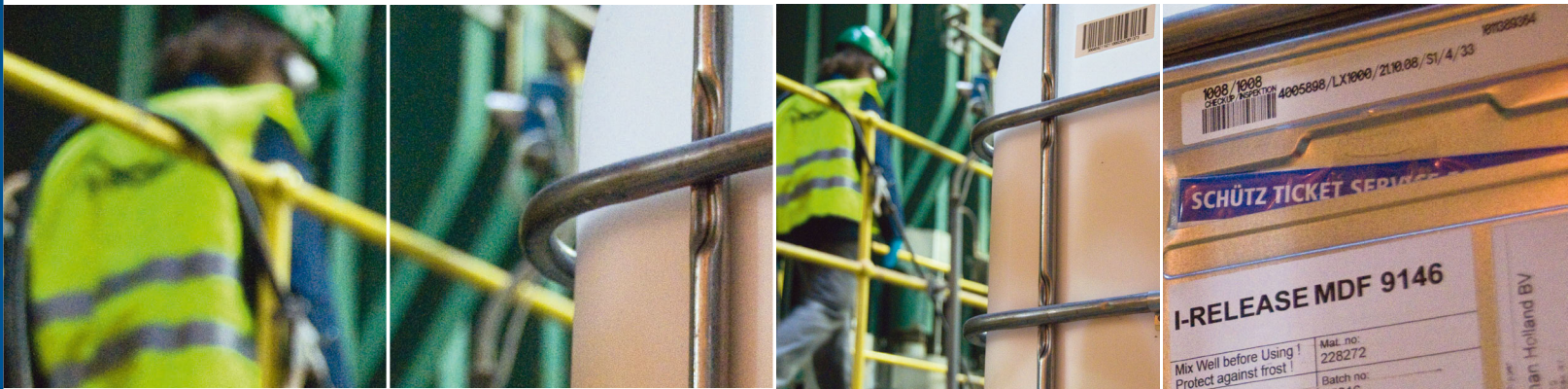
A new family of release systems





Our Wood Industry Commitment - MDI Based Technology

Huntsman has established itself as a leading supplier to the global CWP Industry, through pioneering technology, specializing in particular in MDI based technology. We produce high-quality products for a diverse range of industries, with the wide variety of products and their applications evidence of our commitment to understanding and satisfying our customers' requirements.



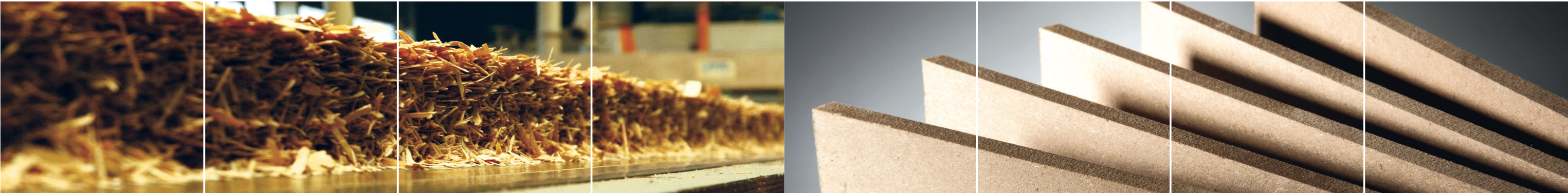
I-RELEASE® is Huntsman's new family of release systems developed to complement our I-BOND® range of MDI resins. With systems for all panel types, both internal and external application, our release systems are sure to make your productions smoother.

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Oriented Strand Board

Huntsman has developed release agents for either continuous or multi-daylight presses, our systems are applied externally either on the press belt, or for multi-daylight presses – on the screen and mat.



I-RELEASE® OSB 9111 - A newly developed external release system based on a Potassium Oleate solution of 15% solids. Allows reduced application rates when compared to standard Potassium Oleate solutions. In addition this release agent offers the added advantage of creating less discolouration of the finished panel, and offers a more cost effective solution.

I-RELEASE® OSB 9128 - A water based external release agent based on 21% solids. This wax free release agent is designed to be sprayed at the inlet of continuous presses, and will deliver improved release performance when compared to more conventional release agents.

ORIENTED STRAND BOARD	
Release agent	
I-RELEASE® OSB 9111	External release for multi-daylight lines with 15% solid content
I-RELEASE® OSB 9128	External release for continuous lines (wax free) with 21% solid content

Medium Density Fibreboard

Huntsman has developed two groups of release agents for the manufacture of MDF. The first, applied internally on the fibres. These can be mixed in-line with the resin and added directly to the blowline. This system results in no emissions, but is used in higher quantities. The second, our range of external release agents, can be sprayed directly onto the press belt of continuous presses. This system is a more cost effective solution as it utilises lower dosage rates, since it is applied directly to the press belt.

I-RELEASE® MDF 9130 - A synthetic wax emulsion based on unique Huntsman technology and proven over 15 years of manufacturing use. Solids content of 30%

I-RELEASE® MDF 9132 - A synthetic wax emulsion based on unique Huntsman technology. Solids Content 40%.

I-RELEASE® MDF 9141 - A water based external release agent based on 21% solids. This wax free release agent is designed to deliver improved release performance when compared to more conventional release agents.

MEDIUM DENSITY FIBREBOARD	
Release agent	
I-RELEASE® MDF 9130	Internal release for multi-daylight and continuous lines (synthetic wax) with 30% solid content
I-RELEASE® MDF 9132	Internal release for multi-daylight and continuous lines (synthetic wax) with 40% solid content
I-RELEASE® MDF 9141	External release for continuous lines (wax free) with 21% solid content



Particleboard

Huntsman has developed a range of internal release agents for the manufacture of Particleboard with multi-daylight presses.

I-RELEASE® PB 9154 - A synthetic wax emulsion based on unique Huntsman technology and proven over 15 years of manufacturing use. This internal release system has a solids content of 30%.

I-RELEASE® PB 9156 - A synthetic wax emulsion based on unique Huntsman technology. This internal release system has a solids content of 40%.

PARTICLEBOARD	
Release agent	
I-RELEASE® PB 9154	Internal release for multi-daylight and continuous lines (synthetic wax) with 30% solid content
I-RELEASE® PB 9156	Internal release for multi-daylight and continuous lines (synthetic wax) with 40% solid content

Wood Fibre Insulation Boards

Huntsman's dedication to continuous innovation has led to the development of Wood Fibre Insulation Board (WFI), which is a brand new application in the wood-based panel industry. This type of panel has a high performance in sound and heat insulation and offers an excellent alternative to standard insulation materials such as mineral fibre.

A tailor made release product developed to provide exceptional release performance. Developed specifically for use with steam heated press systems for the manufacture of wood fibre insulation boards.



I - RELEASE® WFI 9162 - A water based external release agent based on 20% solids. This wax free blend is designed to be sprayed at the inlet of continuous presses. A more cost effective solution, which delivers the minimum of plant interruptions

I - RELEASE® WFI 9165 - External release with 40% solid content.

WOOD FIBRE INSULATION BOARD	
Release agent	
I-RELEASE® WFI 9162	Wax free external release (20% solids)
I-RELEASE® WFI 9165	External release with 40% solid content



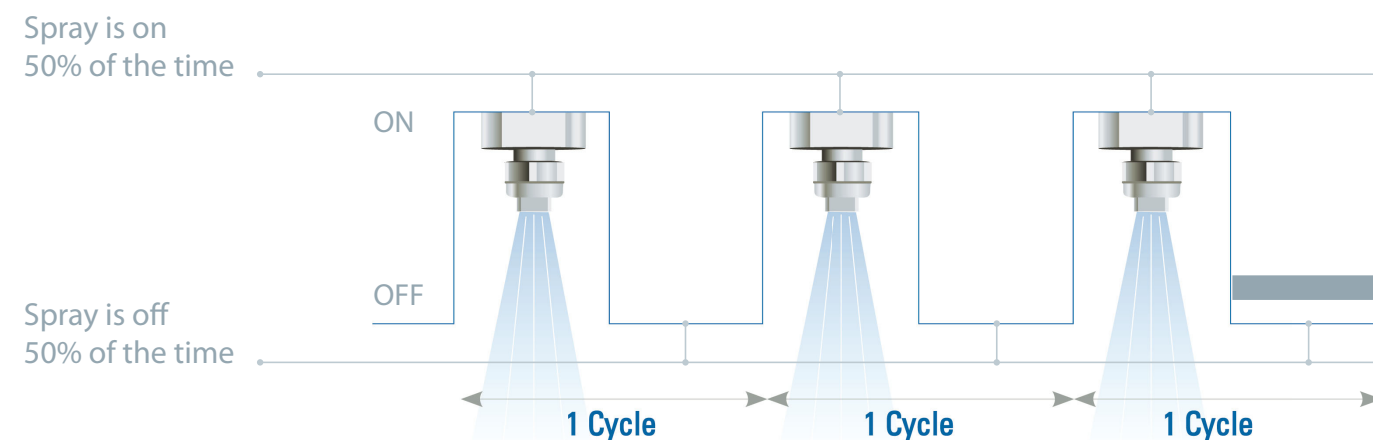
Evaluation of External Release Agents

Huntsman is equipped with unique PWM (Pulse Width Modulated) trial application equipment and is able to evaluate external release agents to the highest standards, directly on your production line.

How does Huntsman approach this evaluation of external release agents?

Our technical service team will conduct an initial evaluation of the production line to identify the requirements for an industrial trial. Our unique PWM trial equipment is then installed by our technical service team, and linked to the press speed via an electronic signal. An intermediate bulk container (IBC) of our I-Release agent is then connected to the PWM equipment. All necessary parameters such as release agent dosing levels and press conditions are programmed into the PWM system by our technical service specialists.

During production, the PWM process parameters will be closely monitored by our team of experts using specialized software. This makes it possible to easily adapt the parameters according to changes in the production process, and to optimise the manufacturing parameters specifically for each production line.



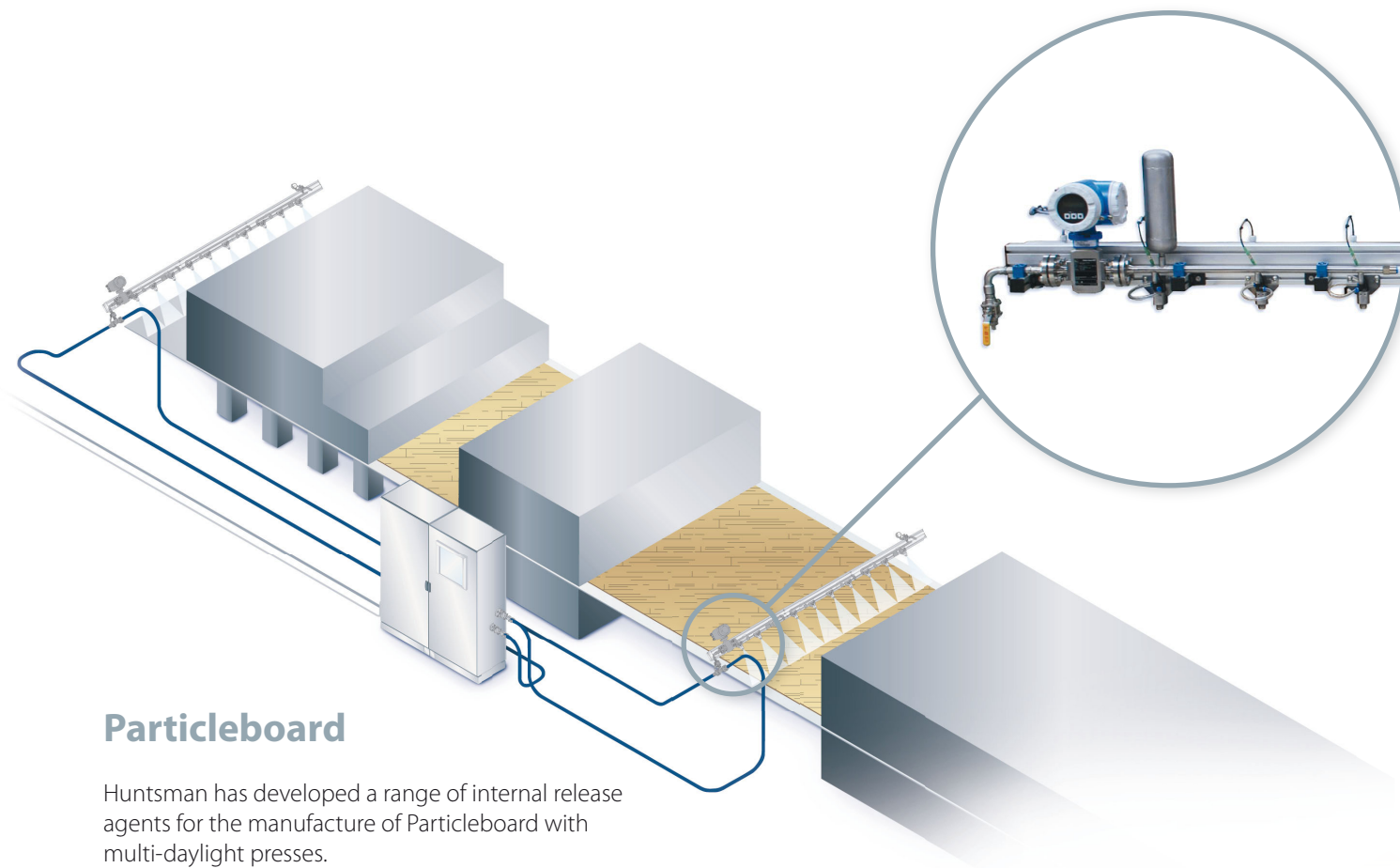
Application Equipment

Huntsman and industry leaders Spraying Systems Co.® have combined their expertise to optimise the application technology being utilised in the manufacture of wood based panels.

This collaboration has been focused on external release systems, and has resulted in the introduction of the new PWM application equipment from Spraying Systems Co.®.

Pulse Width Modulated (PWM) Flow Control - What It Is and Why It's Important

Using an AutoJet® spray controller, flow rate can be controlled very precisely by cycling Pulsajet® spray nozzles on and off quickly at a controlled frequency. For a duty cycle of 50%, the nozzle sprays half the time and the flow will be 50% of the maximum flow rate at a given pressure for the nozzle.



Particleboard

Huntsman has developed a range of internal release agents for the manufacture of Particleboard with multi-daylight presses.

With PWM flow control:

- Mist and overspray are eliminated
- Flow rate can be changed almost instantaneously
- Extremely high flow turndown ratios can be achieved at a single pressure
- Relatively low flow rates can be generated with larger, clog-resistant spray tips
- Chemical consumption can be reduced

Pulsajet® spray headers

are easily installed above and below the mat with independent flow control and spray integrity verification

AutoJet®, and Pulsajet® are registered trademarks of Spraying Systems Co.®

AutoJet®
SPRAY CONTROL
From *Spraying Systems Co.*



Quantifying the Benefits

Huntsman are equipped with unique PWM trial application equipment. Designed to provide maximum control and flexibility. The unit allows the Huntsman Technical Service specialists to optimise all parameters, allowing customers to fully evaluate our range of external release agents, directly on the production line.

The benefits of the PWM system in production are:

- Nozzle system is less expensive than spinning disks, offers greater reliability and requires less maintenance
- Automatically maintains optimal flow rates based on line speed
- Uniform spray coverage increases product quality and production rates
- Independent flow control for top and bottom headers
- Pulse Width Modulated (PWM) flow control saves expensive chemicals
- Spray controller with proprietary integrity software verifies performance and detects plugged nozzles
- Turnkey system is easily installed and integrated into existing production lines



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