



im
ADDITIVES

impress
THE DECOR COMPANY

impress

Into the future with tradition

Impress stands for a successful, globally-operating group that develops and manufactures trend-oriented, wood-based, decorative panel surfaces for the furniture and laminate flooring industries. The group's product portfolio includes printed decorative paper, impregnated paper, finish foil, inks and additives. In addition to creative demands, technical innovation and outstanding product quality above all play a decisive role at impress.

The impress group is most convincing with its high degree of flexibility, agility and vision in making business decisions, more than 85 years of experience within the sector, profound expertise and, above all, the lasting confidence of its customers. The basis for the impress group's enduring success is its claim of working together with partners in the market to apply innovative technologies to develop design-oriented products.



Even during the initial years, internationalization was the declared objective of the company founders. Today, the worldwide locations guarantee excellent service for customers, which makes them the ideal platform for a future-oriented, strategic partnership with globally operating companies. The emphasis: for impress, the transfer of know-how, service quality, security of supply, process partnerships and a high willingness to invest mean an intensive focus on future technologies and the guaranteed production of high quality products.

At impress, product development is one of the essential process steps with a partnership-based customer approach and a direct exchange of competencies. Throughout the history of impress, the group has always critically analyzed and validated the status quo. The continuous improvement process (CIP) is an essential part of the company's philosophy, which is applied to both internal processes and to the interfaces to upstream suppliers and customers. This has resulted in new ways of thinking and structures that sustainably enrich the corporate culture and ensure that the company is able to self-confidently look towards the future of the dynamic market of decorative panel surfaces.



Content

Introducing impress Additives	2
01 Resin Hardeners	8
02 Resin Modifiers	12
03 Wetting/Release Agents	16
04 Specialties	22
05 Tabersperse - Color Dispersions	30

Introducing impress Additives

impress has many years of experience in the production of impregnated decorative paper and possesses “the know-how” regarding all important quality factors in the field of paper impregnation and lamination.

In short, this expertise covers the following:

- Production of quality melamine and urea formaldehyde resins
- Development of new resin additives and their scale-up for implementation in production
- Application of an extensive range of impress additives that address the needs of paper impregnators
- Production of resin additives – to a high quality standard whilst still being economical
- Formulation of tailored impregnation recipes for specific paper types - blending MF and UF resins, together with additives for optimized impregnation and a pressed surface finish
- Adjustment and optimization of impregnation line settings - impress operates 13 impregnation lines
 - 5x in Austria
 - 3x in Brazil
 - 5x in Russia
- Adjustment and optimization of lamination processes - such as “Short-Cycle”, high pressure “Day-Light” press settings and continuous pressure laminate
- Extensive experience with global customers - including an awareness of how local or environmental factors can influence impregnation and lamination processes, and what necessary measures need to be employed

Other advantages that impress can offer are:

- The additives are the same as those used in current impress paper impregnation formulations – i.e. implementation of “best practice”
- Prompt delivery of additives
- Service and technology consultation:
 - Optimization of impregnation process facilities and practices
 - Preparation of resin formulations
 - Training of personnel in the areas of production and laboratory testing

impress additives can also be used for panel manufacturing. For further information, please refer to our other brochures.

Additive Type	Product	Description
01 Resin hardeners		
1.1 UF Resin Hardeners	iUH520	Latent urea resin hardener
	iUH550	Urea resin hardener
	iUH560	Urea resin hardener
	iUH570	Urea resin hardener
1.2 MF Resin Hardeners	iMH510	Standard melamine resin hardener
	iMH525	Standard melamine resin hardener
	iMH529	High reactive melamine resin hardener
	iMH535	Superlatent melamine resin hardener
02 Resin modifiers		
Modifiers	iMM200	Resin modifier
	iMM210	Resin modifier
	iMM230	Resin modifier
03 Wetting/Release agents		
Wetting/Release agents	iWA450	Wetting agent
	iWA455	Wetting agent
	ISA910	Release agent
04 Specialties		
Specialties	iAB731	Antiblock agent
	iAD751	Antidust agent
	iAD752	Antidust agent
	iAF720	Antifoam agent
	iAS710	Antistatic agent
	iAS711	Antistatic agent
	iCS350 / iCS351	Microscratch additive
	iCS360 / iCS361	Microscratch additive
	iWA410	Combi additive wetting/antidust
	iWS460	Combi additive wetting/release/antidust
	05 Additives for phenolic impregnation	
PF-additives	iPH580	Hardener for PF resin
	iPW470	Wetting/release agent for PF
06 Colored dispersions		
Colored dispersions	Tabersperse 1080/1082	White
	Tabersperse 1146/1130/1131	Yellow
	Tabersperse 1721/1101	Red
	Tabersperse 1199	Blue
	Tabersperse 1180	Black

01

Resin
Hardeners



Impress Resin Hardeners

Characteristics

impress has a range of aqueous resin hardener solutions, which can provide today's paper impregnator with a fine level of control over the resin's cure profile – whether for melamine formaldehyde (MF), urea formaldehyde (UF), or mixed melamine urea formaldehyde (MUF) resins.

The range includes both traditional “tried, tested and proven” catalyst technologies, and those resulting from new innovation, research and development projects - unique to impress.

Advantages

- Quality – impress has strict production and quality control procedures that ensure reproducible batch to batch catalytic activation and activity of each hardener type
- Control over the resin's cure time and cure profile:
 - The hardeners are activated at high temperatures
 - Each specific hardener has its own unique temperature range,
 - In which it is activated to catalyze resin polymerization and cure
- Catalytic action can be triggered as required:
 - Partly and to a chosen degree within the impregnation line dryers
 - Almost exclusively and completely within the laminate production press cycle
- Improved shelf life of impregnated paper
- impress hardeners are suitable for Short-Cycle and Day-Light press systems
- Leaves no press plate deposits
- Water dilutable
- Compatibility with all other impress additives

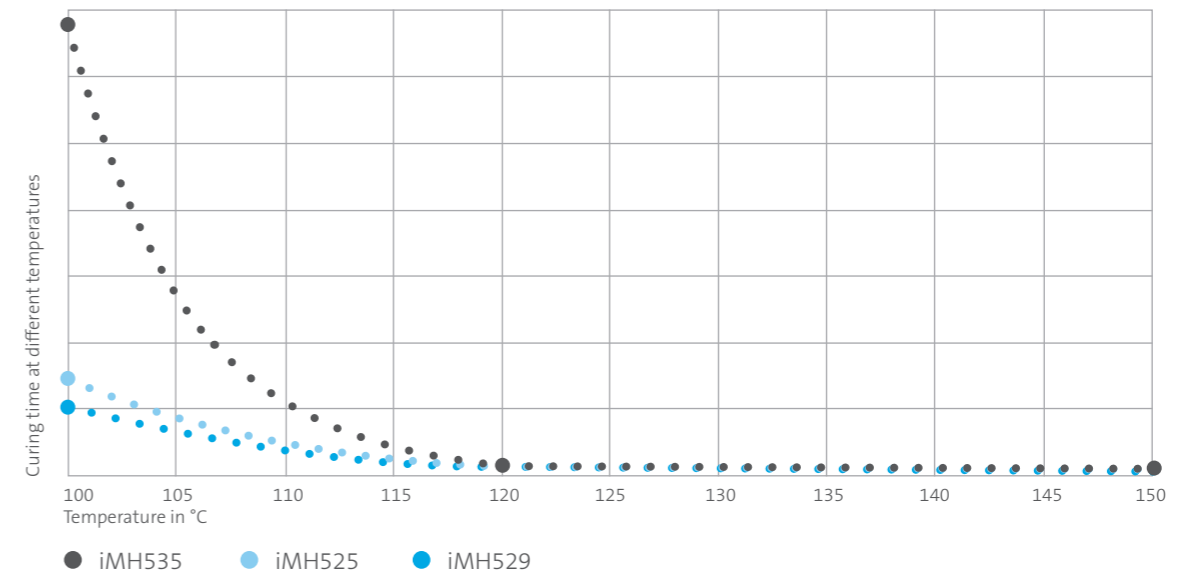
Additive Type	Product	Description
Resin hardeners		
1.1 UF Resin Hardeners	iUH520	Latent urea resin hardener
	iUH550	Urea resin hardener
	iUH560	Urea resin hardener
	iUH570	Urea resin hardener
1.2 MF Resin Hardeners	iMH510	Standard melamine resin hardener
	iMH525	Standard melamine resin hardener
	iMH529	High reactive melamine resin hardener
	iMH535	Superlatent melamine resin hardener

Application

The hardeners are typically dosed in the range of 0.1-1.0% (based on weight) and should be homogeneously mixed into the resin formulation at ambient temperature. The right choice of hardener and the adjustments of reactivity strongly depends on the used resin system, impregnation process and on the requirements of the subsequent pressing process.

With our experience on different requirements all over the world, we are happy to assist you to find the optimum customized system in this regard.

Comparison of Latency of Melamine Hardeners at 0.3w%





02 Resin Modifiers

impress Resin Modifiers

Characteristics

impress has a general all-purpose resin modifier, which can be used to significantly improve a resin's properties and provide a number of benefits. It can be used for the modification of all amino resins, though it is primarily designed for use with melamine formaldehyde (MF) and melamine urea formaldehyde (MUF) resins.

Depending on the requirements, impress resin modifiers are typically dosed in the range 2-5%. For special products and highest flexibility, even higher dosing amounts are possible.

Advantages

- Reduces cracking – the resin is less brittle and resists thermal shock
- Resistance to steam – indicates a general resistance to moisture which is vitally important to the practical application of laminated products
- Resistance to heat damage e.g. from hot pots and pans
- Better reproduction of structured patterns e.g. wood grain
- Unlike many other plasticizers, the entire modifier will be incorporated into the hardened resin through chemical bonding. This is better for the environment and also better for the work place (e.g. no emissions issues regarding the dryers or lamination presses)
- Does not adversely affect appearance properties e.g. gloss

Additive Type	Product	Description
Resin Modifiers		
Modifiers	iMM200	Melamine Resin Modifier
	iMM210	Melamine Resin Modifier
	iMM230	Melamine Resin Modifier

Both boards were subjected to a heat stress test and then allowed to cool to room temperature before being evaluated.



Laminate produced with impress modifier. No heat tearing.



Laminate produced without a resin modifier. Product can suffer from heat tearing.





03

Wetting/
Release
Agents

impress Wetting/Release Agents

Characteristics

impress has formulated a group of highly effective wetting and release agents (separating agent), with properties that complement one another - offering today's paper impregnator the possibility to formulate recipes tailored to various paper types.

A wetting agent can modify a resin formulation's surface tension properties. This can aid impregnation in two ways:

1. Resin Penetration: It is important that the first impregnation recipe rapidly and completely penetrates the dry paper. Therefore, it can be considered that with a more rapid resin penetration, an increase in line speed is possible and consequently an increase in productivity, too.
2. Self-Levelling: Modification of the resin's physical-chemical properties by means of an additive allows it to be self-levelling. Thus a fine degree of smoothness and evenness is achievable that goes beyond those provided by mechanical means alone.

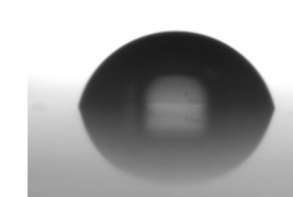
A separating agent will alter the surface properties of the impregnated paper. Primarily it will avoid sticking to the metal press plate during pressing. Consequently, shorter press cycle times can be achieved, and cleaning downtime reduced.

Advantages Wetting Agent:

- Superior and rapid penetration of dry paper
- Reduced surface tension – better wetting of the paper, and self-levelling of the resin surface
- Concentrated and highly effective
- Low Volatile Organic Compounds (VOC) content – does not create issues with contaminated exhaust air from the dryers
- Free of alkylated phenol compounds, such as nonyl-phenol
- Good smoothing / self-levelling of the resin on the paper
- Good stability in the resin formulation
- Typically used for UF and MUF formulations

Advantages Release Agent

- Reduces sticking to the press plate and increased productivity at the press
- Concentrated and highly effective
- Free of alkylated phenol compounds, such as nonyl-phenol
- Typically used for MF and MUF formulations



Without wetting agent



With wetting agent



impress Wetting/Release Agents

Additive Type	Product	Description
Wetting/Release Agents		
Wetting/Release Agents	iWA450	Wetting Agent
Wetting/Release Agents	iWA455	Wetting Agent
Wetting/Release Agents	iSA910	Separating Agent

Furthermore, impress offers “Combi additives” with combined wetting / release / antidust effect. For combi additives, see chapter “Specialties”.

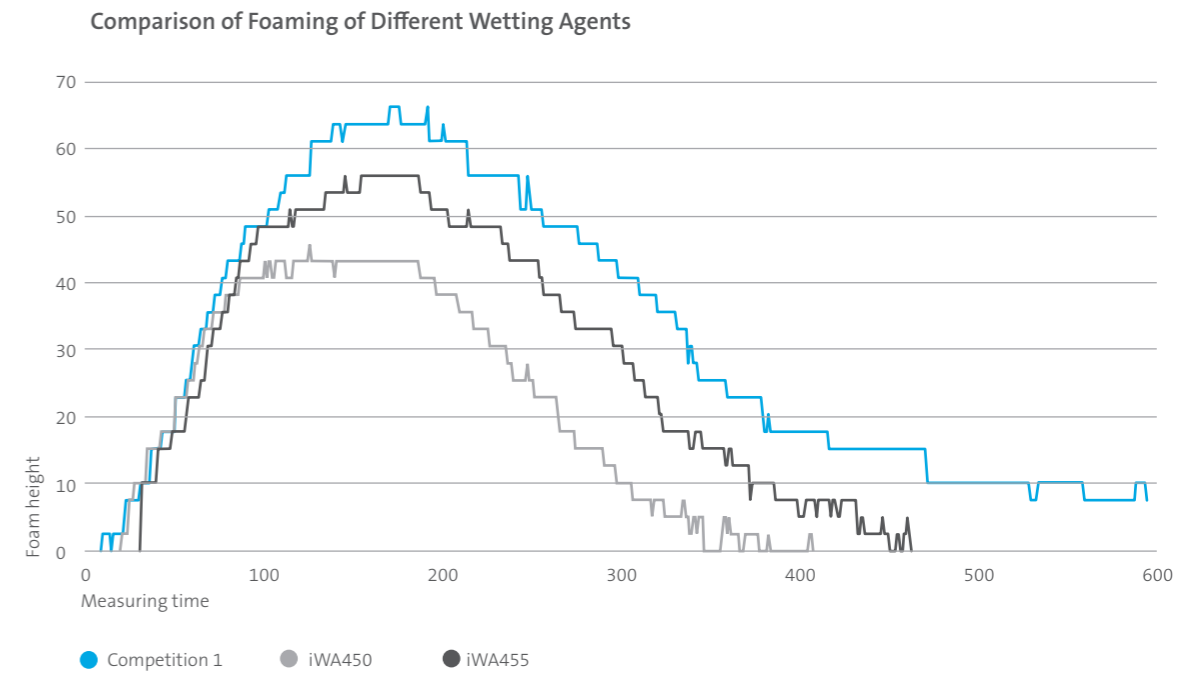
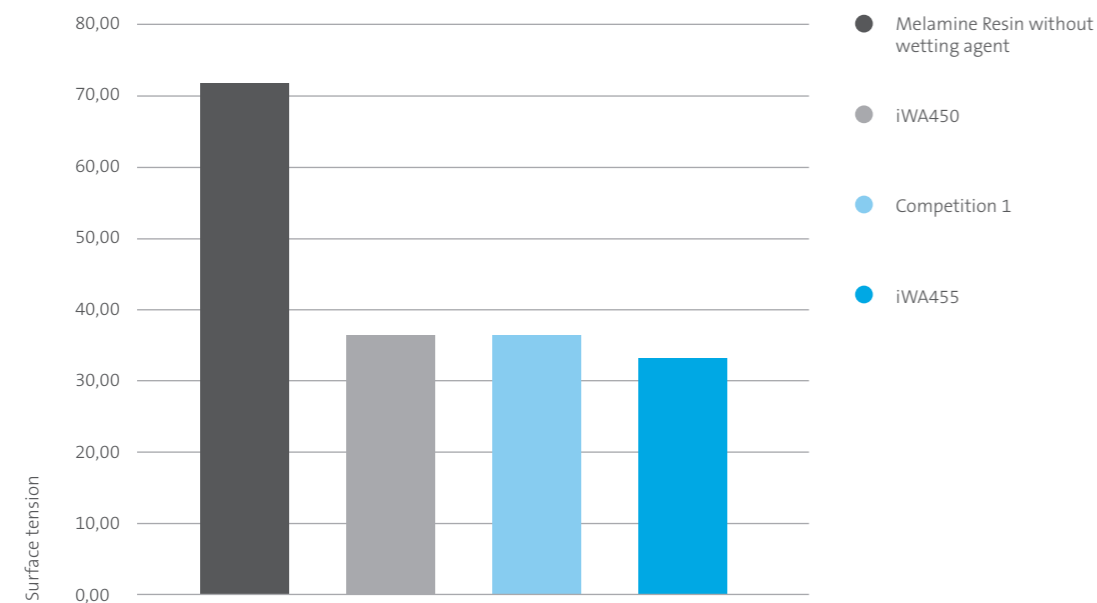
Application

These wetting/separating agents should be homogeneously mixed into the resin formulation at ambient temperature. The amounts used in a resin formulation have to be determined in a technology project.

The dosing amount of wetting and release agent strongly depends on the resin system used, the combination with other additives and the general requirements.

For most application, a dosing range between 0,1-0,5% is recommended.

Surface Tension (mN/m)





04 Specialties

impress Specialties

Additive Type	Product	Description
Specialties		
Specialties	iAB731	Antiblock agent
	iAD751	Antidust agent
	iAD752	Antidust agent
	iAF720	Antifoam agent
	iAS710	Antistatic agent
	iAS711	Antistatic agent
	iCS350/iCS351	Microscratch additive
	iCS360/iCS361	Microscratch additive
	iWA410	Combi additive wetting/antidust
iWS460	Combi additive wetting/release/antidust	



Antistatic

Antiblock Agent

Characteristics

iAB731 is an antiblock agent which prevents sticking and blocking of the coated sheets. It is especially recommended for challenging storage/shipping conditions like hot climate and high humidity. Compared to other available antiblock-emulsions, iAB731 offers clearly improved stability against freezing and coagulation effects.

Typical dosing range of iAB731 is 0,1-0,3%.

Advantages

- Effective antiblock effect on low dosing rates
- Stable liquid formulation
- Improved shelf life compared to other available antiblock-emulsions
- No coagulation effects during storage
- Free of critical fluorinated substances

Antidust Agent

Characteristics

Dust formation during impregnation and pressing is a common challenge. impress antidust agents iAD751 and iAD752 are capable of reducing dust formation by improved film smoothness: With smooth dried resin films, inhomogeneous resin excess on the surface (=“craters”) is reduced and less dust is created.

impress antidust agents are highly effective and in most cases prevention of dust formation can be achieved with low dosing amount (0.05%-0.2%). For challenging dust formation, it is recommended to increase stepwise up to 0,35%.

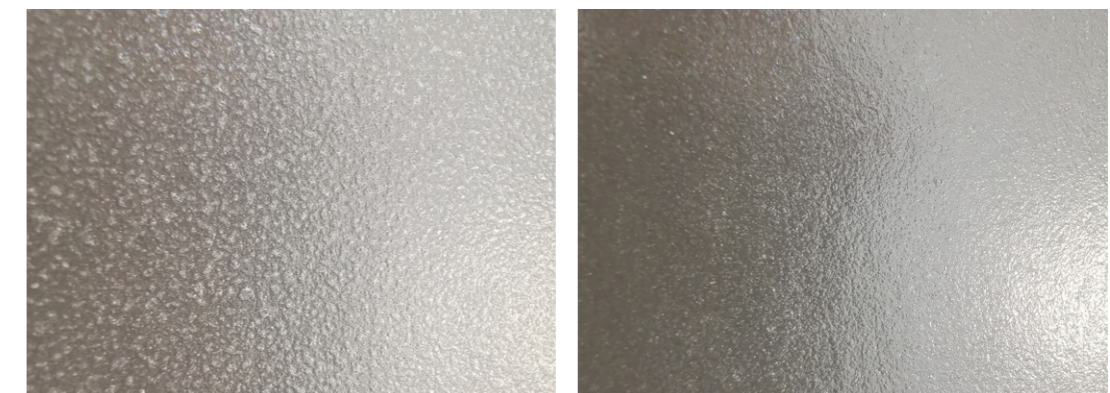


Figure 1: Without antidust (left) and with antidust agent (right)

Advantages

- High active ingredients and low dosing amount
- Beside smoothing effect also improved wetting power
- No influence on optical appearance of the final surface
- Synergies in combination with impress wetting and release agents

It has to be mentioned that dust formation is quite a complex topic and antidust agent is only one part – especially raw paper, resin type and dryer settings also have a strong impact on dust formation. We will be happy to assist you in optimizing your system in a holistic manner

Antifoam additive

Characteristics

iAF720 is an effective antifoam agent, which prevents and destabilizes foam of the liquid resin formulation during impregnation process. Due to its good compatibility with different resin systems, iAF720 is a very universal defoamer.

iAF720 can be used for UF, MF and MUF systems. Typical dosing range is 0.05%-0.15%.

Advantages

- Low dosing rates
- Good compatibility with UF, MUF and MF resins
- Can be added to first and second impregnation step according to requirements
- Enhances the collapse of foam effectively

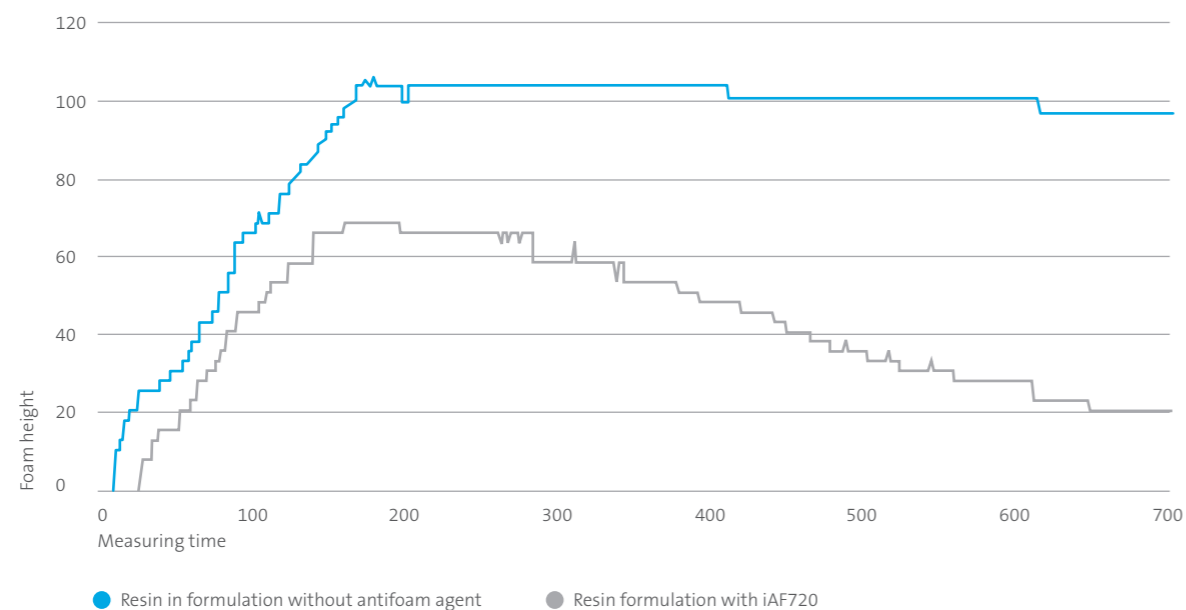


Figure 2: Foaming behavior of resin formulation with and without iAF720

Antistatic additive

Characteristics

iAS710 and iAS711 are antistatic additives, especially for flooring products. It allows the production of laminate floor coverings with antistatic properties according to EN14041.

The application of antistatic additives strongly depends on the present overall system. Therefore, a general dosing recommendation is not possible. We are happy to assist you with tailor-made recommendations to for your existing system.

Advantages

- Easy to use
- Water based formulation, free of solvents
- No negative influence on resin reactivity

Microscratch additive

Characteristics

The iCS-product family is capable of improving microscratch resistance of the final decorative surfaces. It is a dispersion of inorganic micro-sized particles and is typically dosed to the surface resin. Its precisely defined particle size distribution prevents abrasion of the press plate. All iCS-products have to be agitated directly before use, to assure a homogenous mixture.

iCS350 and iCS360 are highly effective additives with low dosing amounts; for improved stability against sedimentation in the resin bath, iCS351 and iCS361 are recommended.

The optimum dosing amount has to be acquired individually; most requirements will be met by adding 1.0%-3.0% of microscratch additive to the surface resin.

Advantages

- No abrasion of press plates
- Suitable for use in resin bath in single step impregnation
- Also suitable for use on coater in two-step impregnation
- Measurable improvement of microscratch resistance for furniture, flooring and tabletops
- No optical influence on the final surface

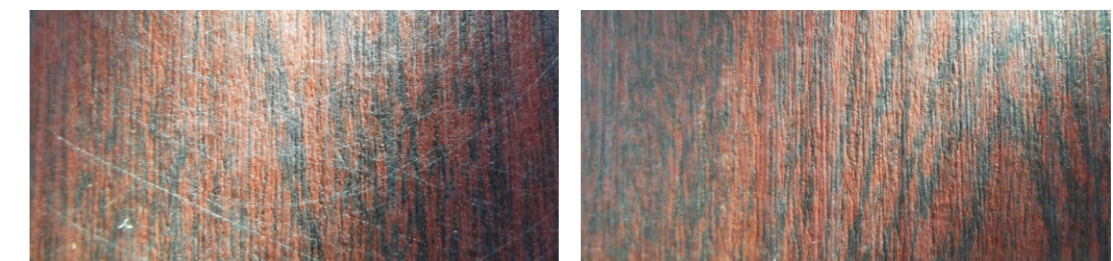


Figure 3: Final surface after Martindale test: without microscratch additive (left) and with iCS350 (right)

Combi additive

Characteristics

For some purposes, so called “combi additives” might be useful. These additives combine several features in one product. Combi additives are easy to use and help to keep impregnation formulations simple.

iWA410: Combination of wetting agent and film smoothening/antidust additive

iWS460: Combination of wetting agent, release agent and film smoothening/antidust additive

The use of combi-additives is recommended only for MF-resin. Typical dosing range is 0,2-0,5%.

Advantages

- Easy to use
- Help to keep impregnation formulation simple
- Advantageous, if only a limited number of dosing connections is available





05

Tabersperse

A range of colorful solutions

Welcome to the vibrant world of Tabersperse, where color knows no bounds. We are delighted to present our exquisite range of colored solutions, designed to add a splash of life and creativity to a wide range of applications. impress Tabersperse range has the perfect solution to meet your color needs.

Impregnation

impress Tabersperse range offers a tailored solution for the impregnation of melamine and urea-formaldehyde resins.

Color range

Our range of colored dispersions includes vibrant shades, hues, and captivating tones that will set your impregnated materials apart from the rest. Whether you're working on furniture components, decorative panels, laminates, or any other application requiring a touch of color, impress has a product.

Product Name	Color Shade	Color Index	Lightfastness <small>*Blue wool scale</small>
TABERSPERSE WHITE 1080	White	PW 6	8
TABERSPERSE WHITE 1082	White	PW 6	8
TABERSPERSE YELLOW 1146	Yellow	PY 150	7
TABERSPERSE YELLOW 1130	Yellow	PY 109	8
TABERSPERSE YELLOW 1131	Yellow	PY 110	7-8
TABERSPERSE RED 1721	Red	PR 176	6-7
TABERSPERSE RED 1101	Red	PR 101	8
TABERSPERSE BLUE 1199	Blue	PB 15.3	7
TABERSPERSE BLACK 1180	Black	PBK 7	8

Excellent Color Consistency

Consistency is key when it comes to achieving the desired color in impregnated materials. Tabersperse colored dispersions offer exceptional color consistency throughout your resin matrix, ensuring that the products have a uniform appearance and eliminating any variations or streaks.

Seamless Integration and Dispersion Properties

We recognize the importance of smooth integration and dispersion of color in impregnation processes. Tabersperse products are meticulously engineered to seamlessly incorporate into melamine and urea-formaldehyde resins, providing excellent flow and dispersion properties. This ensures even color distribution throughout the material, eliminating the risk of uneven coloring or blotches.

Durability

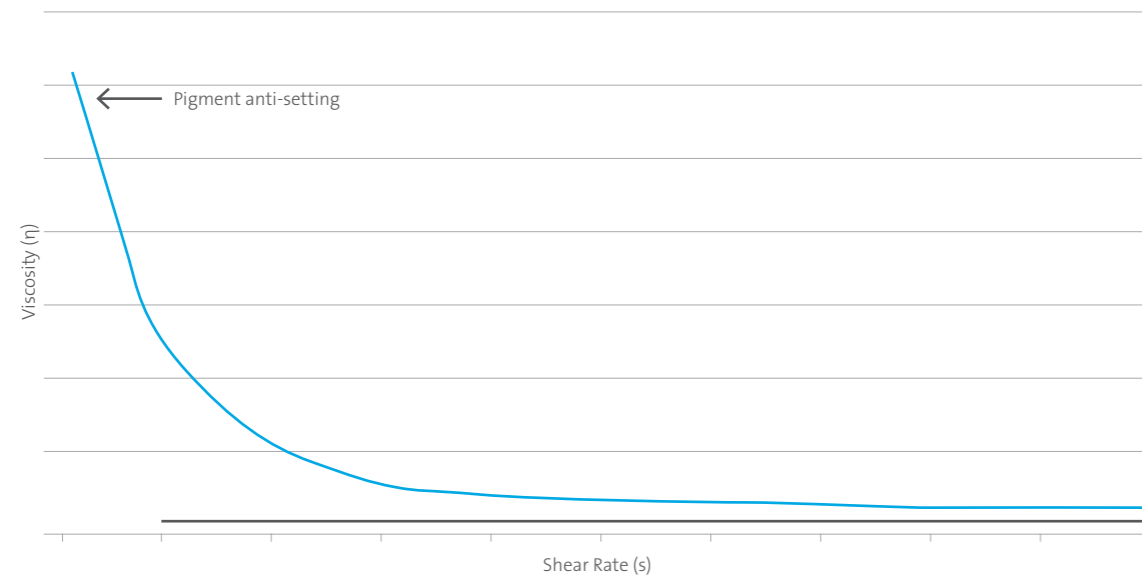
Durability is paramount for impregnated materials exposed to daily life. The Tabersperse range is designed to maintain their color brilliance and integrity, even in high-traffic applications. Our dispersions offer excellent UV resistance, ensuring that your colored finishes remain vibrant and fade-resistant, even when subjected to prolonged exposure to sunlight. (Check the lightfastness resistance within the product range list)

TABERSPERSE WHITE 1080

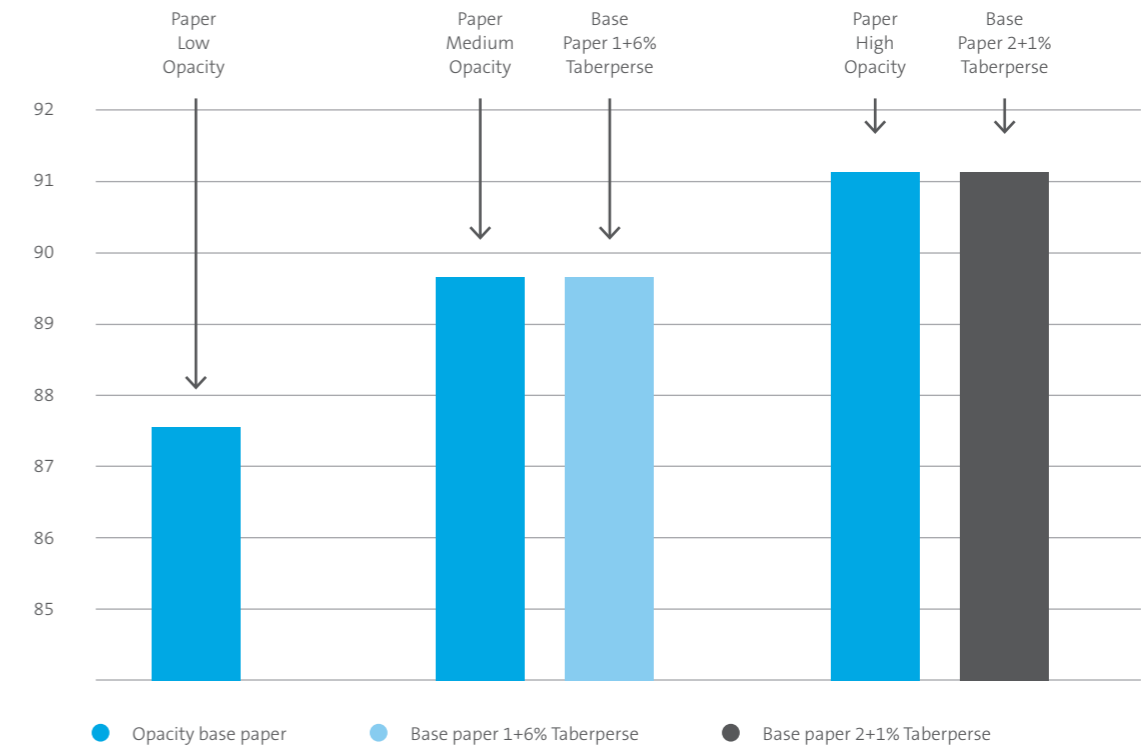


Process Efficiency and Cost-effectiveness

Our Tabersperse White 1080 is designed with process efficiency in mind. Its excellent flow properties facilitate easy impregnation and ensure consistent color coverage, reducing the chances of rework or rejects.



Additionally, the dispersion's high pigment concentration enables lower usage rates, translating into cost savings while maintaining the desired white intensity. Tabersperse White 1080 boasts an extraordinary level of whiteness and opacity, allowing you to achieve pristine and consistent white finishes in your impregnated materials.



Graph: The use of low opacity paper in combination with 6% of our Tabersperse White 1080, provides the same opacity as a medium opacity paper. When impregnating a medium opacity paper with 1% of Tabersperse 1080 we can achieve the same opacity as a high opacity paper.

Additive Type	Product	Description	600 ltr. IBC	1000 ltr. IBC	Tank Trailer
01 Resin Hardeners					
1.1 UF Resin Hardeners	iUH520	Latent urea resin hardener	✓	✓	
	iUH550	Urea Resin Hardener	✓	✓	
	iUH560	Urea Resin Hardener	✓	✓	✓
	iUH570	Urea Resin Hardener	✓	✓	✓
1.2 MF Resin Hardeners	iMH510	Standard melamine resin hardener	✓	✓	
	iMH525	Standard melamine resin hardener	✓	✓	✓
	iMH529	High reactive melamine resin hardener	✓	✓	
	iMH535	Superlatent melamine resin hardener	✓	✓	✓
02 Resin modifiers					
Modifiers	iMM200	Resin modifier	✓	✓	
	iMM210	Resin modifier	✓	✓	✓
	iMM230	Resin modifier	✓	✓	✓
03 Wetting/Release agents					
Wetting/Release agents	iWA450	Wetting agent	✓	✓	✓
	iWA455	Wetting agent	✓	✓	✓
	iSA910	Release agent	✓	✓	✓
04 Specialities					
Specialities	iAB731	Antiblock agent	✓	✓	
	iAD751	Antidust agent	✓	✓	
	iAD752	Antidust agent	✓	✓	
	iAF720	Antifoam agent	✓	✓	
	iAS710	Antistatic agent	✓	✓	
	iAS711	Antistatic agent	✓	✓	
	iCS350 / iCS351	Microscratch additive	✓	✓	
	iCS360 / iCS361	Microscratch additive	✓	✓	
	iWA410	Combi additive wetting/antidust	✓	✓	
	iWS460	Combi additive wetting/release/antidust	✓	✓	
05 Additives for phenolic impregnation					
PF additives	iPH580	Hardener for PF resin	✓	✓	
	iPW470	Wetting/release agent for PF	✓	✓	
06 Colored dispersions					
Colored dispersions	Tabersperse 1080/1082	White	✓	✓	
	Tabersperse 1146/1130/1131	Yellow	✓	✓	
	Tabersperse 1721/1101	Red	✓	✓	
	Tabersperse 1199	Blue	✓	✓	
	Tabersperse 1180	Black	✓	✓	







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