Hesse Lignal
inspiring you

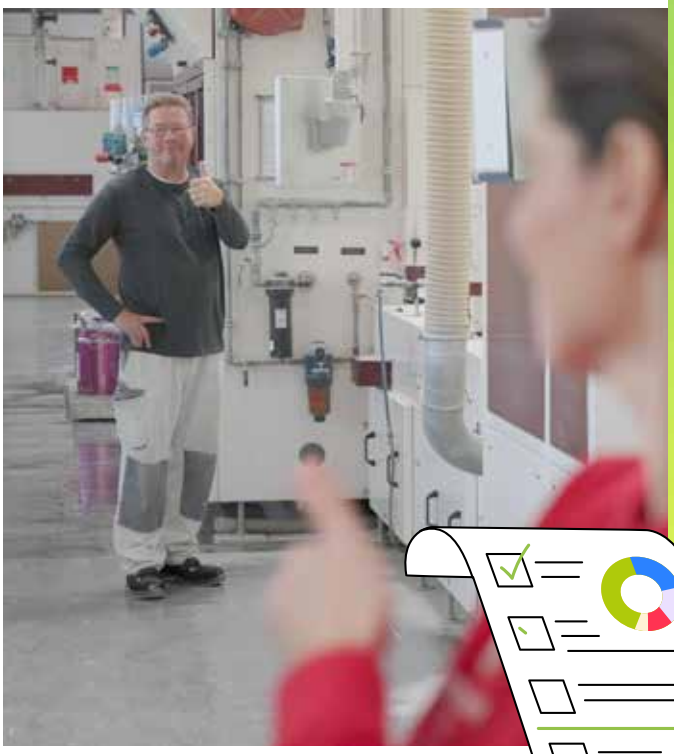
ARE YOU AWARE OF YOUR SAVINGS POTENTIAL?

Our Quick Check can help in us jointly increasing your effectiveness

Are you dissatisfied with the quality of your coated surface? Then now is exactly the right time to scrutinize your processes.

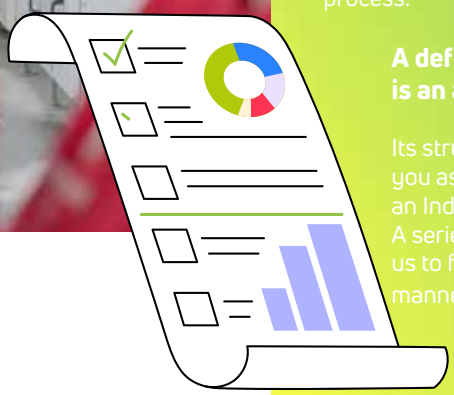
It would be advisable to seek our expertise as a lacquer manufacturer, because there are various opportunities for optimization:

- Lacquers can be swapped
- Machinery can be reconfigured
- Coating lines can be converted
- A completely new coating line could lead to the right result



We support the entire optimization phase from initial concept, conversations with coating line manufacturers, to implementation including all the associated testing.

Process optimization is a core expertise within Hesse Lignal. We have already assisted hundreds of new customers throughout this onboarding process.



A defined project plan is an aspect of a Quick Check.

Its structured sequencing is useful both to you as an Industrial company as well as to us. A series of predefined questions enable us to find the best solutions in a targeted manner.

An overview of the individual Quick Check phases is set out below:

1 Phase | **Requirements management**

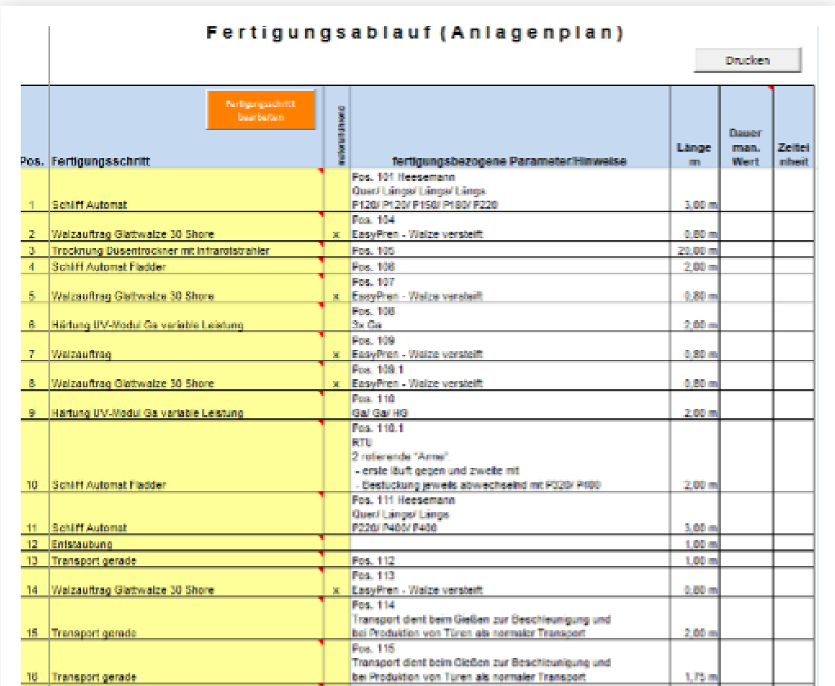
JOINT ELABORATION OF THE REQUIREMENTS AND SPECIFICATIONS

This phase involves a discussion between your company and the Hesse sales representative to understand the objectives, desires and challenges. It includes creating a record of the technical data and quality standards relating to the products to be coated. Hesse will then outline initial ideas regarding possible solutions.

Detailed checklists are available to record your requirements. This is a sample checklist relating to standards. These lists are adapted to the respective sectors and the requirements defined here establish a vital input for Phase 3.

Kurzbezeichnung der Norm	Mögliche Ausprägungen	Mögliche Ausprägungen	Anforderung Gestaltung (Ja/Nein)
DIN EN 13329	Abriebfestigkeit, Stoßfestigkeit, Fleckenunempfindlichkeit	AC1 - AC6 (Abriebklassen)	[ ]
DIN EN 14342	Holzfußböden - Eigenschaften, Bewertung der Konformität	Klasse 1, 2, 3 (Nutzungsklassen)	[ ]
ISO 22196	Messung der antibakteriellen Aktivität auf Kunststoffoberflächen	Bewertung der antibakteriellen Aktivität	[ ]
DIN 68861-1	Möbeloberflächen - Teil 1: Bewertung der Beständigkeit gegen chemische Einwirkung	A, B, C (Beständigkeitsgrade)	[ ]
DIN EN 13501-1	Klassifizierung von Bauprodukten und Bauarten zu ihrem Brandverhalten	A1, A2, B, C, D, E, F (Brandverhalten)	[ ]
DIN EN ISO 10582	Heterogene Polyvinylchlorid-Bodenbeläge - Spezifikationen und Prüfverfahren	Typ I, Typ II (Produkttypen)	[ ]
DIN EN ISO 9239-1	Reaktion zum Feuer von Bodenbelägen - Teil 1: Bestimmung der Brennbarkeit	Kritische Strahlungsfluss-Werte	[ ]
DIN EN ISO 105-B02	Farbechtheit gegen künstliches Licht - Xenonbogenlicht	Noten 1-8 (Farbechtheitsgrade)	[ ]

2 Phase | **Quick Check**



Fertigungsablauf (Anlagenplan)

Drucken

Pos.	Fertigungsschritt		fertigungsbezogene Parameter/Hinweise	Länge m	Dauer man. Wert	Zeiteinheit
1	Schliff Automat		Pos. 101 Heesemann Quer/ Längs/ Längs/ Längs P120/ P120/ P150/ P180/ P220	3,00 m		
2	Walzauftrag Glattwalze 30 Shore	x	Pos. 104 EasyPren - Walze versteift	0,80 m		
3	Trocknung Düsentrockner mit Infrarotstrahler		Pos. 105	20,00 m		
4	Schliff Automat Fladder		Pos. 106	2,00 m		
5	Walzauftrag Glattwalze 30 Shore	x	Pos. 107 EasyPren - Walze versteift	0,80 m		
6	Härtung UV-Modul Ga variable Leistung		Pos. 108 3x Ga	2,00 m		
7	Walzauftrag	x	Pos. 109 EasyPren - Walze versteift	0,80 m		
8	Walzauftrag Glattwalze 30 Shore	x	Pos. 109.1 EasyPren - Walze versteift	0,80 m		
9	Härtung UV-Modul Ga variable Leistung		Pos. 110 Ga/ Ga/ HG	2,00 m		
10	Schliff Automat Fladder		Pos. 110.1 RTU 2 rotierende "Arme" - erste läuft gegen und zweite mit - Bestückung jeweils abwechselnd mit P320/ P400	2,00 m		
11	Schliff Automat		Pos. 111 Heesemann Quer/ Längs/ Längs P320/ P400/ P400	3,00 m		
12	Entstaubung			1,00 m		
13	Transport gerade		Pos. 112	1,00 m		
14	Walzauftrag Glattwalze 30 Shore	x	Pos. 113 EasyPren - Walze versteift	0,80 m		
15	Transport gerade		Pos. 114 Transport dient beim Gießen zur Beschleunigung und bei Produktion von Türen als normaler Transport	2,00 m		
16	Transport gerade		Pos. 115 Transport dient beim Gießen zur Beschleunigung und bei Produktion von Türen als normaler Transport	1,75 m		

This phase involves creating a detailed inventory of the company's existing coating equipment to enable a review of the technical conditions and current effectiveness. It includes documenting the equipment components, drying times, ambient conditions and safety regulations. The Quick-Check is undertaken by a Hesse technician.
Any potential for improvement can be directly identified.

All process steps are digitally recorded and are therefore available to every project participant.

3 Phase

Reality check

REVIEWING MULTIPLE ASPECTS OF REALISATION FEASIBILITY

This phase involves a review as to whether your industrial requirements can be met using standard Hesse products, or respectively whether the products and/or coating equipment need to be adapted. A distinction is made between four scenarios:

a) The requirements can be met using standard products. In this case, you would be notified regarding the appropriate products

b) The requirements can be met using adapted products. In this case, the Hesse laboratory would be tasked with developing or modifying the products to meet the requirements.

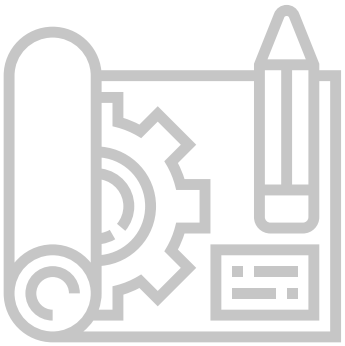
c) The requirements can be better met using alternative coating equipment and standard products. In this case, the Hesse plant engineering team would be requested to plan or recommend suitable coating equipment. Hesse can if you wish put you in touch with a coating line manufacturer who could supply and install the equipment.

d) The requirements can only be met using alternative coating equipment and adapted products. In this case, both the Hesse laboratory and the Hesse plant engineering team would be tasked with elaborating a tailored solution. Hesse can again put you in touch with a coating line manufacturer who could supply and install the equipment.

A Hesse project manager would coordinate the entire process both internally and externally. This includes fully transparent communication with you. This step also includes clarification of the general commercial conditions (willingness to invest, costs per square metre, indicative offer).

4 Phase

Development



PRODUCT AND COATING LINE DEVELOPMENT

This phase involves planning and development of the products and coating equipment. It includes taking the following steps:

- In the case of product adaptation, the Hesse laboratory would develop formulations that achieve the desired properties and quality characteristics. These formulations would be tested and optimized based on samples until they meet the requirements.
- In the case of coating equipment adaptation, the Hesse plant engineering team would plan coating equipment that fulfils the technical and commercial requirements. This coating equipment would be designed and optimised based on drawings, calculations and simulations until it meets the requirements. Our experts would support you in your discussions with coating line manufacturers.

The Hesse project manager would monitor the product and coating equipment development in close consultation with you.

5 Phase

Tests

TARGETED TESTING INTERNALLY AT HESSE

This phase involves the developed or adapted products and the planned or recommended coating equipment being tried and tested in the Hesse Innovation Centre. It includes taking the following steps:

Your personnel would directly apply the products onto the substrates to be coated. The relevant parameters would accordingly be measured and documented in line with the requirements catalogue.

These orientating tests would be overseen by a Hesse project manager who would also be responsible for evaluating the results and producing a test report.

6 Phase

Verification

DEMONSTRATION OF THE SOLUTIONS IN THE HESSE INNOVATION CENTRE

This phase would involve you being given a demonstration of the tried and tested solutions in the Hesse Innovation Centre. This demonstration usually takes place as follows:

- You will be greeted by the Hesse sales team and then given a guided tour of our Innovation Centre. You will be shown different coating technologies and Hesse products being used and can discuss potential services
- The team in our Innovation Centre will reproduce the planed coating equipment and simulate the production process.
- You will then be invited to provide open feedback. Your opinions, questions and observations are immensely important in relation to the next steps.

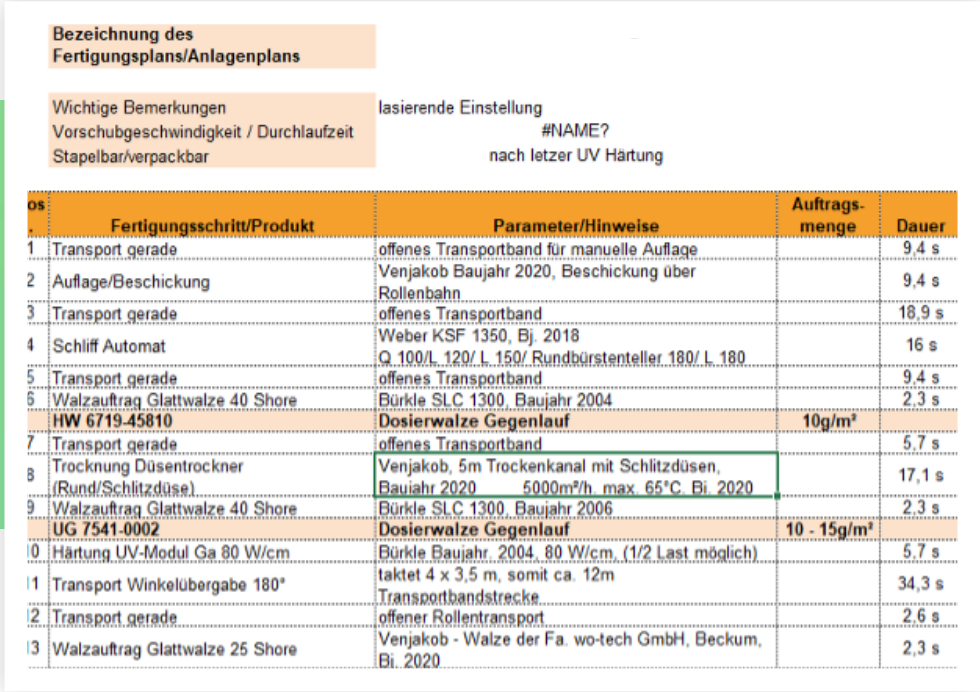
  These include

  - Establishing contact with coating equipment manufacturers
  - Product ordering
  - Arranging dates for delivery/ installation of the coating equipment
  - Commissioning
  - Staff training
  - Quality control and
  - Follow-up support

TEST OPERATION ON YOUR COATING EQUIPMENT

This phase involves using your coating line to test the supplied products and the delivered or adapted coating equipment. It includes taking the following steps:

- Our Hesse sales representative or a Hesse logistics partner will supply you with the products. You will also receive the shipping documents, material safety data sheets, technical information bulletins and instructions for use.
- The coating equipment manufacturer or a service partner will deliver the coating equipment to you. You will also receive the installation instructions, operating instructions, maintenance instructions and warranty conditions.
- The coating equipment manufacturer or a service partner will install, connect, configure and bring the new equipment into operation on your coating line. This includes an explanation of the functions, settings, safety precautions and troubleshooting.
- The coating equipment manufacturer or a service partner will brief your staff in how to operate, maintain and clean the coating equipment. This includes a demonstration of the handling options, hints, tips and tricks.
- Our Hesse plant technician or a Hesse service partner will use your coating equipment to apply and dry the products. This will include determining and documenting the optimal parameters, such as viscosity, application quantity, drying time, gloss level, hardness, adhesion, resistance and colour tone.



Bezeichnung des Fertigungsplans/Anlagenplans

Wichtige Bemerkungen	lasierende Einstellung
Vorschubgeschwindigkeit / Durchlaufzeit	#NAME?
Stapelbar/verpackbar	nach letzer UV Härtung

os.	Fertigungsschritt/Produkt	Parameter/Hinweise	Auftrags-menge	Dauer
1	Transport gerade	offenes Transportband für manuelle Auflage		9,4 s
2	Auflage/Beschickung	Venjakob Baujahr 2020, Beschickung über Rollenbahn		9,4 s
3	Transport gerade	offenes Transportband		18,9 s
4	Schliff Automat	Weber KSF 1350, Bj. 2018 Q 100/L 120/ L 150/ Rundbürstenteller 180/ L 180		16 s
5	Transport gerade	offenes Transportband		9,4 s
6	Walzauftrag Glattwalze 40 Shore	Bürkle SLC 1300, Baujahr 2004		2,3 s
	HW 6719-45810	**Dosierwalze Gegenlauf**	**10g/m²**	
7	Transport gerade	offenes Transportband		5,7 s
8	Trocknung Düsentrockner (Rund/Schlitzdüse)	Venjakob, 5m Trockenkanal mit Schlitzdüsen, Baujahr 2020 5000m³/h max. 65°C, Bj. 2020		17,1 s
9	Walzauftrag Glattwalze 40 Shore	Bürkle SLC 1300, Baujahr 2006		2,3 s
	UG 7541-0002	**Dosierwalze Gegenlauf**	**10 - 15g/m²**	
10	Härtung UV-Modul Ga 80 W/cm	Bürkle Baujahr. 2004, 80 W/cm, (1/2 Last möglich)		5,7 s
11	Transport Winkelübergabe 180°	taktet 4 x 3,5 m, somit ca. 12m Transportbandstrecke		34,3 s
12	Transport gerade	offener Rollentransport		2,6 s
13	Walzauftrag Glattwalze 25 Shore	Venjakob - Walze der Fa. wo-tech GmbH, Beckum, Bj. 2020		2,3 s

This test operation will be accompanied by a Hesse project manager who will also be responsible for monitoring the quality attained and producing a test report.

A detailed document (TdO Technik der Oberfläche/ Guide to Finishing Techniques) will be produced for each surface structure. This will precisely document the interplay between coating equipment and products.

This provides certainty within the production process and enables error-free communication during collaboration.

8 Phase **Production**

START OF PRODUCTION AND REGULAR OPERATION

Production can commence once the test are successfully completed and any adjustments have been made. Hesse Lignal will also support you during regular operation to assure constant quality and efficiency.

Now you have a detailed insight into how we work with you to design the ideal onboarding process.

Are you aware of your savings potential?

We aim to increase your effectiveness.
A Quick Check is a good starting point.

Trust in our expertise and experience!

We look forward to hearing from you.

Hesse Lignal

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