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QUALITY
TO
CHANCE

QIB is the general licensee of the
quality mark QUALISTEELCOAT
in germany.

quali
steel
coat

Your way to QIB

Quality Mark for
Cathodic Dip Painting
and Powder Coating



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1 Preliminary remark

The QIB Qualitätsgemeinschaft Industriebeschichtung e.V. is a voluntary association of quality-conscious industrial coaters. The member companies guarantee their consistent quality standards by complying with and documenting the specifications of the regulations. Compliance with the regulations is checked annually by an independent testing institute. The QIB monitors the member companies for compliance with the QIB quality regulations.

The award of the QIB quality mark ensures the quality of the member companies and their coating processes.

1.1 Other certifications (DBS 918340, DIN 55633, DIN 55634, EN 1090)

With the QIB certification, other standards and certification requirements can also be met in a very simple way, without major additional costs. For example, QIB certification is fully recognized in the Deutsche Bahn standard DBS 918340. With a QIB certification of stress group II, an indoor approval can be applied for, and with stress group IV, an outdoor approval can be applied for.

Since QIB certification also fully covers the standard specifications of DIN 55633 and DIN 55634, verification for these standards can also be achieved in an uncomplicated manner. In the case of EN 1090, most of the requirements are also met, so that verification can be achieved with little additional effort.

1.2 Advantages of membership

Your customers can always rely on the fact that your service provision meets the highest quality standards. A decisive advantage for your image and a sign towards your competitors. With the quality mark of the QIB you guarantee your competence. This creates trust and security for your customers. The documentation of the prescribed regular self-monitoring measures creates transparency and a high quality standard for the product and the processes in the company.

The QIB is happy to advise its members on request on many issues that arise in industrial coating and supports you in your certification.

2 The way to the QIB certificate

Every industrial coater can apply for a QIB license as long as he has a process-safe chemical pretreatment or a mechanical pretreatment. The application for admission must be sent in writing or by mail to the Qualitätsgemeinschaft Industriebeschichtung e.V..

A QIB licensee can receive the quality mark for one or more QIB coating systems. The license certificate states for which systems he has received his QIB license and which stress groups have been achieved with these systems. In accordance with DIN EN ISO 12944, DIN 55633 and DIN 55634, the stress groups represent the achieved corrosivity category and protection duration in a simplified system.

Several coating lines can be tested in a plant. A coating line consists at least of the chemical pretreatment with the adhesive water dryer and or mechanical pretreatment, the powder coating booth and the stoving oven. An additional line within the meaning of the QIB is considered to be a second line if it can be operated independently of the first one. Thus, a line may consist of several pretreatments, several coating booths and several curing ovens. The coating lines tested are specified in the license.

Stress group according to QIB	Test period acc. to QIB stress group (h)	Test period acc. to DIN EN ISO 12944 part 6 (h)	Short term corrosivity category and term of protection acc. to DIN EN ISO 12944-6:2017
I	125	120	C1 (very high) C2 (high) C3 (low)
II	250	240	C2 (high) C3 (medium) C4 (low)
III	500	480	C2 (very high) C3 (high) C4 (medium) C5 (low)
IV	1.000	720	C3 (very high) C4 (high) C5 (medium)
V	1.500	1.440	C4 (very high) C5 (high)
VI *	2.200	-	C5 (very high)

* only for coatings on galvanized base material with a CDP priming respectively pre-anodizing for aluminum

The QIB powder coating systems

The following table shows which stress groups are possible with which coating structure. The specifications are strongly based on the specifications of DIN 55633 and 55634.

Base material	Layer structure powder coating	I	II	III	IV	V	VI
Aluminum	1						
	2						
Aluminum with pre-anodizing	1						
Steel	1						
	2						
Continuously hot dipped steel (strip galvanized)	1						
	2						
Hot-dip galvanized steel (batch galvanized)	1						
	2						
Steel coated by thermal spraying	1						
	2						
Aluminum, steel and hot-dip galvanized steel with CDP priming	0						
Aluminum with CDP priming	1						
	2						
Steel with CDP priming	1						
	2						
Galvanized steel (batch or strip galvanized) with CDP priming	1						
	2						

2.1. The certification process / coater license

The process of a QIB certification starts with the application for a QIB license. With the application, the company becomes a candidate for admission. The initial inspection to obtain the quality mark includes on-site inspection and corrosion tests at the testing institute.

It is important for the candidate for admission to prepare well in advance for the initial inspection. This includes the purchase of the necessary measuring instruments and appropriate laboratory equipment. In addition to the initial purchase, self-monitoring measures must be established in the company and the necessary documentation must be implemented.

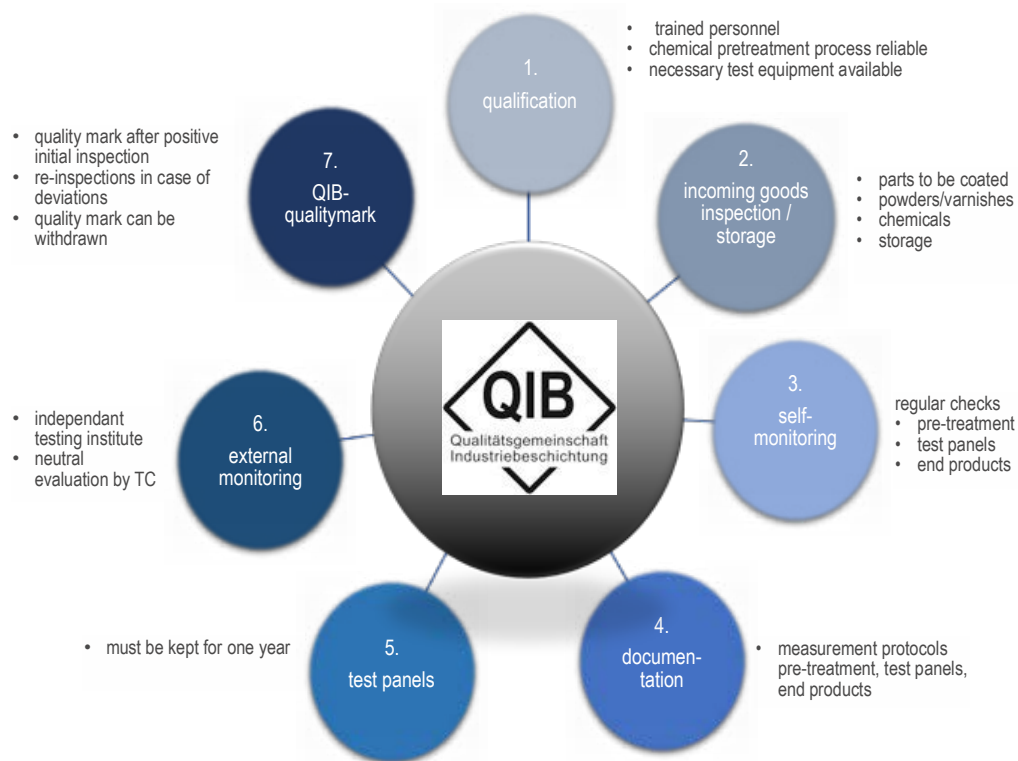


During the on-site inspection, the inspector checks the implementation of the specifications and writes a test report on this; at the same time, the test panels are coated for the corrosion tests. After completion of the corrosion tests (neutral salt spray test or acetic acid salt spray test (aluminum) and constant climate test), the test report of the operational test and the laboratory report are submitted to the Technical Commission for evaluation. If all requirements are met, the candidate for admission becomes a full member of the QIB and is awarded the quality mark.

After successful certification, the quality mark holder is obliged to perform continuous self-monitoring/inspection. Once a year the inspector will check the quality in the company on-site and again take samples for the corrosion tests.

No matter whether initial or routine tests: If the inspector finds deficiencies, improvements must be made within a specified period of time. If the coater fails to comply with this obligation, the quality mark may be lost.

The QIB quality standard and testing procedure



2.2. What are the requirements?

The coating company must set up a quality control system including an in-house test plan in accordance with the current quality regulation. Production processes, equipment, measuring devices as well as the coated products must be regularly monitored and tested.

This includes:

- Order inspection
- Incoming goods inspection
- Storage of the parts to be treated
- Storage of coating materials and pretreatment chemicals
- Storage of pretreated parts
- production lines, equipment, testing devices
- Drying of pretreated parts
- Control of pretreatment (mechanical and/or chemical)
- Laboratory and testing equipment for chemical pretreatment process
- Thermal curing (baking process)
- Storage of coated material
- Finished part and in-house inspection
- Test station



2.3. Which measures must be fulfilled for the QIB quality mark?

In order to obtain a QIB quality mark, there are requirements for the factory production control. The specifications and tests to be implemented differ for the respective processes.

The most important requirements for factory production control are summarized here in a table. The detailed regulations and specifications for implementation can be found in our quality regulations on the homepage under Downloads.

I.2 mechanical pre-treatment and coating process

to be tested	type of test	Specifications			Minimum scope	Records
		Stress group				
		I	II	III - VI		
Salt content of blasting agent	Measuring of conductivity value with measuring device			X	1 x per month	informal
Particle size of blasting agent	Sieve analysis		--	X	1 x per quarter	informal
Grease content of blasting agent	Water penetration test		---	X	1 x per week	informal
Grease-free surface after blasting ¹⁾	Ink test, measuring device or similar	X	X	X	1 x per day	informal
Degree of surface pre-treatment	Visually	X	X	X	each component / hanger	informal
Dust test	Dust particle test kit	X	X	X	each component / hanger	informal
Surface roughness	Comparator, measuring device			X	1 x per day	informal
Assessment of zinc layer	Visually			X	1 x per shift	informal
Dew point measurement ¹⁾	Measuring device	X	X	X	2 x per day: in the morning and in the late afternoon	informal
Thermal curing (stovingoven)	With measuring device	X	X	X	1 x per quarter	Graphics or measuring tape

** In-house control measures can be waived, if mechanical pre-treatment is followed by chemical pre-treatment*

I.3 Chemical pre-treatment and coating process

to be tested	type of test	Specifications			Minimum scope	Records
		Stress group				
		I	II	III - VI		
Pre-treatment baths (degreasing, etching etc.)	Analysis, temperature, concentration	X X X	X X X	X X X	Acc. to manufacturer specifications	informal
Film-forming baths (chromating, phosphatizing etc.)	Analysis, temperature, concentration		--	X X X	Acc. to manufacturer specifications	informal
Layer weight of film-forming procedures	Stripping procedure resp. acc. to specifications of manufacturer		---	X	Acc. to manufacturer specifications 1 x per day	informal
Assessment of conversion layer	acc. to manufacturer's specifications			X	visually, if possible 1x per shift testing acc. to manufacturer's specifications	informal
Conductivity of final rinse	With measuring instrument		X	X	1 x per day	informal
Retained water dryer	With measuring instrument or tapes	X	X	X	1 x per quarter	Graphics or measuring tape
Thermal curing (stoving oven)	With measuring instrument	X	X	X	1 x per quarter	Graphics



I.4 Control of finished products

to be tested	type of test	Specifications				Minimum scope	Records
		Stress group					
		I	II	III	IV + V		
appearance	visual	X	X	X	X	on customer specification	informal
Gloss ¹⁾	reflectometer value	X	X	X	X	on customer specification	Minimum and maximum values
layer thickness ²⁾	measurement	X	X	X	X	Acc. to sampling scheme	Minimum and maximum values

1) not for CDP

2) acc. to in-house control chapter G.9.3 (coating surface)

2.4. Testing on test panels

In addition to regular monitoring of the pretreatment processes, the most important element of QIB quality assurance is regular self-monitoring of the coating quality on test plates. For this purpose, test plates of all certified QIB coating systems must be coated with an application at least once per shift and the respective prescribed test procedures must be carried out.

In addition, the boiling test must be carried out at least once per production day and the Machu test once a week from stress group III on. The results of this self-monitoring measurement must be documented and the test panels kept until the next test by the testing institute.



I.7 Tests on test panels powder coatings

to be tested	Type of test	Specifications					Minimum scope	Records
		Stress group						
		I	II	III	IV	V		
Gloss	Reflectometer value						1 x per order ¹⁾ and shift	Minimum and maximum values
Layer thickness	Measurement	X	X	X	X	X	1 x per order ¹⁾ and shift	Minimum and maximum values
Adhesive strength	Cross cut	X	X	X	X	X	1 x per order ¹⁾ and shift	Property values
Deformability	Bend test ²⁾		X	X	X	X	1 x per order ¹⁾ and shift	Minimum and maximum values
Deformability under dynamic stress (cross-linking test for powder coats)	Impact test ³⁾		X	X	X	X	1 x per order ¹⁾ and shift	Minimum and maximum values
Quality of pre-treatment	Machu test			X	X	X	1 x per week	1 x per week
	Boiling test Exposure time (min)	15	30	60	120	180	1 x per day	1 x per day

1) > 100 m²

2) Not on blasted material with 2 mm sheet thickness and hot-dip galvanized material

3) Not on blasted material with 2 mm sheet thickness

1.8. Tests on test panels CDP + powder coating

to be tested	Type of test	Specifications					Minimum scope	Records
		Stress group						
		I	II	III	IV	V		
Gloss	Reflectometer value						1 x per order ¹⁾ and shift	Minimum and maximum values
Coat thickness	Measurement	X	X	X	X	X	1 x per order ¹⁾ and shift	Minimum and maximum values
Adhesive strength	Cross cut	X	X	X	X	X	1 x per order ¹⁾ and shift	Property values
Elasticity	Cupping test			X	X	X	1 x per order ¹⁾ and shift	Minimum and maximum values
Quality of pre-treatment	Machu test			X	X	X	1 x per week	1 x per week
	Boiling test Exposure time (min)	15	30	60	120	180	1 x per day	1 x per day

1) > 100 m²

2.5. Necessary test equipment

Various test devices are required for the respective processes in order to implement the prescribed self-monitoring measures. We support our new members in the procurement of the test equipment and provide free test instructions of all test procedures and documentation templates to simplify the implementation. Below you will find an overview of the required equipment:

- Coating thickness device
- Glossmeter
- Cross cut device
- Ball impact tester
- Mandrel bending device
- Equipment for carrying out the boiling test
- Machutest device (only from stress group III)
- Equipment for monitoring the chemical or mechanical VBH process
- Furnace measuring device

The test equipment required for monitoring the pretreatment process naturally depends on the process in question. In the case of chemical pretreatment, it can basically be said that all baths are monitored daily and must be within the manufacturer's target specifications.



3 Costs

Fees for a regular member

For a membership in the QIB, an admission fee and annual fees in the form of a membership fee and the inspection fees are due.

Below you will find a list of the main fees (status: 01.01.2022). Since the inspection fees are time-dependent and the costs of corrosion inspections are runtime-dependent, it is not possible to provide an exact cost calculation in advance. In principle, however, it can be said that the external annual costs amount to approx. 3,000.00 € for 3 inspected processes.

Admission fee (one-time): 1.400 EUR

Membership fee (annual): 1.400 EUR
In the first year of membership pro rata per month

Audit fee for on-site inspection (annual): 800 - 1.200 EUR
Depending on the time required

Laboratory costs (annual):
(depending on the stress group)
Stress group IV: 655 EUR

Example calculation for ongoing annual costs for stress group IV:

Membership fee 1.400 EUR

Audit fee for on-site inspection 1.200 EUR

Laboratory costs Stress group IV: 655 EUR

Sum 3.255 EUR

4 Contact

Have we aroused your interest?

By becoming a member of the Qualitätsgemeinschaft Industriebeschichtung e.V. and receiving the quality mark, you document your quality standards and belong to a unique network that unites specialists in the industry. The team at the association's office will be happy to provide you with comprehensive advice and answers to all your questions. We would also be happy to arrange a personal consultation and support you on your way to QIB certification.

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Click here for the LinkedIn profile of QIB:





Publisher:

Qualitätsgemeinschaft Industriebeschichtung e.V.
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73529 Schwäbisch Gmünd

© QIB e.V. Schwäbisch Gmünd
Status: Oktober 2021

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