

# Test Certificate

## Intectin<sup>®</sup> Plus

Use in drinking water sector

- KTW - BWGL
- KTW - D1 “large-surface sealants”

Laboratory-No. U-23-07696-006 | 27.09.2023

Laboratory-No. 115916/00/01 | 30.08.2019

issued by: LADR Zentrallabor Dr. Kramer & Kollegen, Geesthacht

Max Frank GmbH & Co. KG  
Mitterweg 1  
94339 Leiblfing  
Germany

Geesthacht, 27.09.2023

### Test Certificate

(This test was implemented in accordance with the requirements of the evaluation criteria document for plastics and other materials in contact with drinking water (KTW-BWGL, German Federal Health Department) dated March 2022)

Applicant: Max Frank GmbH & Co. KG  
Mitterweg 1  
94339 Leiblfing  
Germany

Product: **Intectin® Plus**  
polyurethane injection resin

Test type: product testing

According to the test report dated September 27, 2023 the test boards **Lab.-No. U-23-07696-006** **Intectin® Plus** fulfill the requirements for use in the drinking water sector of the KTW- recommendations for the following

Application area(s)	Temperature range(s)		
	cold water	warm water	hot water
Pipes ID < 80 mm	--	--	--
Pipes 80 mm ≤ ID < 300 mm	--	--	--
Pipes ID ≥ 300 mm	--	--	--
Equipment gear (Fittings), components in container	--	--	--
sealents, lubricants	fulfilled	--	--
container, repair system	--	--	--

if the material is suitable for these in technical terms.

**Head of Department:**  
(Dr. D. Reinhardt)



The validity of this report is 5 years from the date of issue and can be extended once for another 5 years.

Max Frank GmbH & Co. KG  
Mitterweg 1  
94339 Leiblfing  
Germany

Geesthacht, 27.09.2023

### Test report

(This test was implemented in accordance with the requirements of the evaluation criteria document for plastics and other materials in contact with drinking water (KTW-BWGL, German Federal Health Department) dated March 2022)

Lab-No.:	U-23-07696-006	Analysis:	Chemistry	TOC
Manufacturer:	Max Frank GmbH & Co. KG	Proportion surface/ volume:	0.2 dm <sup>-1</sup>	5 dm <sup>-1</sup>
Type of sample:	polyurethane injection resin	Surface of test sample:	0,539 dm <sup>2</sup>	0,538 dm <sup>2</sup>
Sample name:	Intectin® Plus	Volume of test water:	2,696 L	0,108 L

#### Test results cold water (23 ± 2 °C):

Parameter	after 3 days	after 6 days	after 9 days	KTW-requirements after 9 days
absorption coefficient „colour“ (410nm) mg/L Pt	5,7	5,9	<b>5,4</b>	≤ 10 DIN EN ISO 7887
pH value	8,29	8,26	8,09	DIN 38404 C5
Turbidity FNU	0,12	0,13	<b>0,12</b>	≤ 0,5 DIN EN ISO 7027
Tendency of foam formation	n.c.i.	n.c.i.	<b>n.c.i.</b>	<b>n.c.i.</b>
Threshold odour number (20 °C)	1	1	<b>1</b>	≤ 2
TOC (c <sub>tap</sub> ) mg/L	< 0,001	< 0,001	<b>&lt; 0,001</b>	≤ 0,5 DIN EN 1484

n.c.i. = not considerably influenced  
conversion factor (K<sub>f</sub>) = 0,005 (P4)

#### Assessment:

The provided test samples of **Intectin® Plus** fulfill the requirements for use in the drinking water sector according to the valuation basis of the German Federal Health Department dated March 2022 for the application "sealents, lubricants".  
Aromatic amines were qualitatively not detectable.

#### Head of Department:

(Dr. D. Reinhardt)

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Max Frank GmbH & Co. KG  
Mitterweg 1  
94339 Leiblfing  
Germany

Geesthacht, 30.08.2019

**Test Certificate**  
**according to the KTW recommendations**  
**(Federal Health Gazette 20, 1977ff)**

(This test was implemented in accordance with the requirements of the KTW-recommendation of October 2008.)

Applicant: Max Frank GmbH & Co. KG  
Mitterweg 1  
94339 Leiblfing  
Germany

Product: **Intectin® Plus**  
polyurethane injection resin

Test type: product testing

According to the test report dated August 30, 2019 the test boards **Lab.-No. 115916/00/01**  
**Intectin® Plus** fulfill the requirements for use in the drinking water sector of the KTW- recommendations for the following

	Application area(s)	Temperature range(s)		
		cold water	warm water	hot water
A	Pipes	--	--	--
B	Containers	--	--	--
C	Equipment gear	--	--	--
D1	Large-surface sealants	fulfilled	--	--
D2	Small-surface sealants	--	--	--

if the material is suitable for these in technical terms.

**Head of Department:**  
(Dr. D. Reinhardt)

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Max Frank GmbH & Co. KG  
 Mitterweg 1  
 94339 Leiblfing  
 Germany

Geesthacht, 30.08 2019

**Test report**

(This test was implemented in accordance with the requirements of the KTW recommendation from 1977 dated October 2008.)

Lab No.:	115916/00/01	KTW-classification:	D1 "Large-surface sealants "
Manufacturer:	Max Frank GmbH & Co. KG	Proportion of surface and volume:	1:25 cm <sup>2</sup> /cm <sup>3</sup>
Type of sample:	polyurethane injection resin	Test sample surface:	52,0 cm <sup>2</sup>
Sample name:	Intectin® Plus	Test water volume:	1300 mL

**Test results:**

Parameter	after 3 days	after 6 days	after 9 days	KTW-requirements after 9 days
<b>pH</b>	8,28	8,29	<b>8,29</b>	<b>6,5 – 9,5</b> DIN 38404 C5
<b>absorption coefficient „colour“ (436nm)1/m</b>	0,25	0,18	<b>&lt; 0,10</b>	<b>n.c.i.</b> (≤ 0,5 für 436 nm) DIN EN ISO 7887
<b>Turbidity TE/F</b>	0,19	0,16	<b>0,10</b>	<b>n.c.i.</b> (≤ 1,5) DIN EN ISO 7027
<b>Tendency of foam formation</b>	n.c.i.	n.c.i.	<b>n.c.i.</b>	<b>n.c.i.</b>
<b>Threshold odour number (20°C)</b>	1	1	<b>1</b>	≤ 2
<b>TOC (mg C/m<sup>2</sup>*day)</b>	101,4	79,1	<b>7,4</b>	≤ 60 DIN EN 1484
<b>Oxidation reaction with chlorine (mg Cl<sub>2</sub>/m<sup>2</sup>*day)</b>	15,0	14,7	<b>14,3</b>	≤ 75 DIN EN ISO 7393-2

n.c.i. = not considerably influenced

**Assessment:**

The provided test samples of **Intectin® Plus** fulfill the requirements for use in the drinking water sector according to the KTW recommendations of the German Federal Health Department dated Oktober 2008 for the application range D1 " Large-surface sealants" (surface/volume = 1:25 cm<sup>2</sup>/cm<sup>3</sup>).

**Head of Department:**

(Dr. D. Reinhardt)

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