

DECLARATION OF PERFORMANCE

No. LE_5918500320_01_M_WIT-UH 300 (2)

This is an English translation of the original German wording.
In cases of doubt, the German version applies

1. Unique identification code of the product:

Würth WIT-UH 300 injection system

Art. pre-no.: 5918 504 280; 5918 500 320; 5918 500 420; 5918 503 825; 5918 50*

2. Type, batch, or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

ETA-17/0036, Annex A3

Batch number: See packaging

3. Intended use(s):

Product type	Reinforcement connection subsequently mortared in with the Würth WIT-PE 300 injection system. Reinforcement steel with a diameter of 8 to 32 mm or the ZA stay in sizes M12 to M24 and Würth WIT-UH 300 injection mortar are used for the reinforcement connection.
For use in	<ul style="list-style-type: none"> reinforced and unreinforced standard concrete as defined under EN 206-1:2000 property class C12/15–C50/60 in accordance with EN 206-1:2000 max chloride content of concrete 0.40% (CL 0.40) based on cement content as defined under EN 206-1:2000 non-carbonated concrete
Option	EN 1992-1-1:2004 + AC:2010
Load	static and quasi-static loads In the event of fire
Material	reinforcement steel as defined under EN 1992-1-1:2004+AC:2010, Annex C bars and reinforcement steel bars of ring class B or C, included sizes: 8–32 mm dia. Stay sizes M12 to M24: <ul style="list-style-type: none"> Reinforcement steel bars Class B in accordance with NDP or NCL in accordance with EN 1992-1-1/NA:2013 ZA vz: Galvanized steel in accordance with EN 10087:1998 or EN 10263:2001 ZA A4: Stainless steel, 1.4362, 1.4401, 1.4404, 1.4571, EN 10088-1:2014 ZA HCR: Highly corrosion-resistant steel (1.4529, 1.4565), EN 10088-1:2014
Intended use	<ul style="list-style-type: none"> Installation in dry or wet concrete (installation not permitted in drill holes filled with water) overlapping joint for reinforcement connections to slabs and beams overlapping joint between a foundation and a column or wall subject to bending end anchorage of slabs or beams reinforcement connections primarily to construction components under pressure anchoring of reinforcement for covering tensile forces Overlapping joint between a column which is subject to bending and a foundation (ZA) Overlapping joint for the anchoring of guard-rail posts (ZA) Overlapping joint for the anchoring of overhanging components (ZA)
Temperature range	Range: -40°C to +80°C (max temperature for brief periods +80 °C, max temperature over long periods +50 °C)

4. Manufacturer as required pursuant to Article 11(5)

Adolf Würth GmbH & Co. KG
Reinhold-Würth-Str. 12 - 17

D – 74653 Künzelsau

5. Authorized representative whose mandate covers the tasks specified in Article 12(2)

Not relevant

6. System(s) of assessment and verification of constancy of performance of the construction product as set out in Annex V

System 1

7. a) When the construction product is covered by a harmonized standard:

EN number and ISSUE DATE

When 7(a) applies, the notified body or bodies

code number of the notified body

7. b) When the construction product is covered by a European Assessment Document

EAD 330087-00-0601

When 7(b) applies:
European Technical Assessment

ETA-17/0036 – awarded on 27.02.2018

Technical Assessment Body

Deutsches Institut für Bautechnik DIBt (German Institute for Construction Technology)

Notified Body

MPA Darmstadt (1343)

8. Declared performance:

Declaration: In the case of harmonized technical specifications, the essential characteristics for the intended use(s) under point 2

The performance for each essential characteristic according to level or class. If no performance is declared, then "NPD" ("no performance determined")

Essential characteristics	Measuring method	Performance	Harmonized technical specification
Design values of the ultimate bond stress	EN 1992-1-1:2004+AC:2010	ETA-17/0036, Annex C1	EAD 330087-00-0601
Minimum anchorage length and minimum lap length	EN 1992-1-1:2004+AC:2010	ETA-17/0036, Annex C1	
Design value of the ultimate bond stress in the event of fire		ETA-17/0036, Annex C2	
Characteristic tensile strength for ZA stays in the event of fire		ETA-17/0036, Annex C3	

9. When pursuant to Articles 37 and 38 appropriate technical documentation and/or Specific Technical Documentation has been used

- a) REFERENCE NUMBER for the documentation used
b) Requirements with which the product complies

The performance of the above product corresponds to the declared performance. The declaration of performance is issued in compliance with EU Regulation 305/2011 under the sole responsibility of the above manufacturer.

Signed for and on behalf of the manufacturer by:



Frank Wolpert
(Head of Product Management, Authorized Signatory)
Künzelsau, 26.06.2018



Dr.-Ing. Siegfried Beichter
(Head of Quality, Authorized Signatory)

Annex C1

Minimale Verankerungslänge und minimale Übergreifungslänge

Die minimale Verankerungslänge $\ell_{b,min}$ und die minimale Übergreifungslänge $\ell_{o,min}$ gemäß EN 1992-1-1:2004+AC:2010 ($\ell_{b,min}$ nach Gl. 8.6 und Gl. 8.7 und $\ell_{o,min}$ nach Gl. 8.11) müssen mit dem Erhöhungsfaktor α_{lb} nach Tabelle C1 multipliziert werden.

Tabelle C1: Erhöhungsfaktor α_{lb} in Abhängigkeit der Betonfestigkeitsklasse und Bohrverfahren

Betonfestigkeitsklasse	Bohrverfahren	Stabdurchmesser	Erhöhungsfaktor α_{lb}
C12/15 bis C50/60	Hammerbohren (HD) oder Pressluftbohren (CD)	8 mm bis 32 mm ZA-M12 bis ZA-M24	1,0

Tabelle C2: Bemessungswerte der Verbundspannung f_{bd} in N/mm² für alle Bohrverfahren und für gute Verbundbedingungen

gemäß EN 1992-1-1:2004+AC:2010 für gute Verbundbedingungen
(für alle anderen Verbundbedingungen sind die Werte mit 0,7 zu multiplizieren)

Stab - Ø	Betonfestigkeitsklasse								
	C12/15	C16/20	C20/25	C25/30	C30/37	C35/45	C40/50	C45/55	C50/60
8 bis 32 mm ZA M12 bis M24	1,6	2,0	2,3	2,7	3,0	3,4	3,7	4,0	4,3

Annex C2

Bemessungswert der Verbundspannung $f_{bd,fi}$ unter Brandbeanspruchung für die Betonfestigkeitsklassen C12/15 bis C50/60, (alle Bohrmethoden):

Der Bemessungswert der Verbundspannung $f_{bd,fi}$ unter Brandbeanspruchung ist nach der folgenden Gleichung zu berechnen:

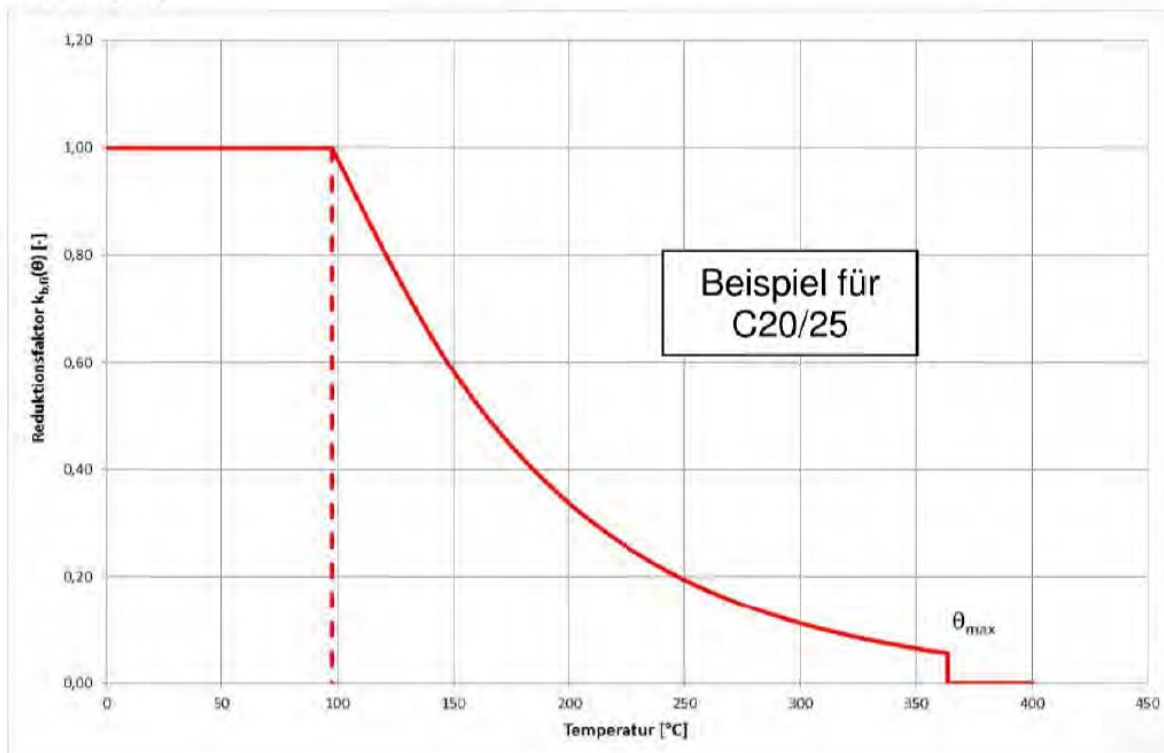
$$f_{bd,fi} = k_{b,fi}(\theta) \cdot f_{bd} \cdot \gamma_c / \gamma_{M,fi}$$

mit: $\theta \leq 364^\circ\text{C}$: $k_{b,fi}(\theta) = 30,34 \cdot e^{(\theta - 0,011)} / (f_{bd} \cdot 4,3) \leq 1,0$
 $\theta > 364^\circ\text{C}$: $k_{b,fi}(\theta) = 0$

- $f_{bd,fi}$ Bemessungswert der Verbundspannung unter Brandbeanspruchung in N/mm^2
- θ Temperatur in $^\circ\text{C}$ in der Mörtelfuge.
- $k_{b,fi}(\theta)$ Abminderungsfaktor unter Brandbeanspruchung.
- f_{bd} Bemessungswert der Verbundspannung in N/mm^2 im kalten Zustand nach den Tabellen C2 oder C3 in Abhängigkeit von der Betonfestigkeitsklasse, dem Stabdurchmesser, dem Bohrverfahren und dem Verbundbereich entsprechend EN 1992-1-1.
- γ_c Teilsicherheitsbeiwert gemäß EN 1992-1-1.
- $\gamma_{M,fi}$ Teilsicherheitsbeiwert gemäß EN 1992-1-2.

Für den Nachweis unter Brandbeanspruchung sind die Verankerungslängen nach EN 1992-1-1:2004+AC:2010 Gleichung 8.3 mit der temperaturabhängigen Verbundspannung $f_{bd,fi}$ zu ermitteln.

Beispielkurve des Abminderungsfaktor $k_{b,fi}(\theta)$ für Betonfestigkeitsklasse C20/25 bei guter Verbundbedingung:



Annex C3

**Tabelle C3: Charakteristische Zugtragfähigkeit für Zuganker
Brandbeanspruchung,**
Betonfestigkeitsklassen C12/15 bis C50/60, gemäß Technical

Zuganker		M12	M
Stahl, verzinkt (ZA vz)			
Charakteristische Zugtragfähigkeit	R30	$\sigma_{Rk,s,fi}$	[N/mm ²]
	R60		
	R90		
	R120		
Nichtrostender Stahl (ZA A4 oder ZA HCR)			
Charakteristische Zugtragfähigkeit	R30	$\sigma_{Rk,s,fi}$	[N/mm ²]
	R60		
	R90		
	R120		

Bemessungswert der Stahlspannung $\sigma_{Rd,s,fi}$ unter Brandbean

Der Bemessungswert der Stahlspannung $\sigma_{Rd,s,fi}$ unter Brandbeanspruchung ist