Element Materials Technology Hamburg GmbH * Siemensstraße 17 * 73733 Esslingen
Tel.: (0711) 918949-0 * Fax: (0711) 918949-22 * E-Mail: glp-s@dnvgl.com

Material Testing

Salt Spray (Fog) test (1000 h) on 1 sample of steel

Test No.: 16 12 155 S
Rev . 1
Date: 22.03.2017

Orderer:	**EXQUIP Germany GmbH**
Order No.:	**Salt Spray (Fog) Test – 416148 / 716322 - Nachtrag**
Project-No.:	**---**
Contact:	**Mr. Kroll**
Test job:	**1000 h Salt Spray (Fog) Test acc. to ASTM B117 on 1 pipe section of steel**
Sample name:	L0290 – 5 ½“ JFE BEAR CE PIN Connector inclusive Protector
	Material No.: --- Material: unalloyed steel Specification: --- Dimensions: ca. Ø 140 x 10 x 130 mm
Test record:	1000 h normal salt spray (fog) test (NSS) on 1 pipe section of unalloyed steel, whose thread is covered with a protector. At sample L0290 the pipe end with an external thread is covered with a protector of a polymer material. It was mounted by the customer and the thread was additional treated by a corrosion inhibitor.
Result:	After the test duration of 1000 h the thread end, which was covered by the protector, shows no visible corrosive attack. All uncovered surfaces shows at least locally pronounced red rust formation. By the normal salt spray (fog) test according ASTM B117 and a test duration of 1000 h, the conservation effect of the protector in connection with the corrosion inhibitor is confimed hereby.

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Test conditions of salt spray (fog) test

Salzsprühnebeltest *Salt fog spray test*					*L0290*
Norm *Specification*	:	**ASTM B117**	**Verfahren** *Practice*	:	**NSS**
Eigenschaften der Kammer *Description of the chamber*					
Korrosivität Kammer *Corrosivity chamber*	:	**76 g/m² an Gebrauchsnormal aus Stahl** *76 g/m² on working standard of steel*			
Verwendetes Wasser *Used water*	:	**demineralisiertes Wasser mit Leitfähigkeit < 20 µS/cm** *demineralized water with conductivity < 20 µS/cm*			
Salzkonzentration *Salt concentration of br*	:	**50 g/l**	**pH-Wert der Sole** *pH-value of brine*	:	**6,5**
Probeneigenschaften und Probenvorbereitung *Description of the chamber*					
Probenart *Test specimen*	:	**1 Probestück** *1sample*	**Beschichtung** *Vanish / Layer*	:	**---**
Reinigung *Cleaning*	:	**Alkohol** *Alcohol*	**Neigungswinkel** *Angle of inclanation*	:	**ca. 20°**
Zyklusbeschreibung *Description of the test-cycle*					
Nebelzeit *Time of salt-fog*	:	**1000 h**	**Temperatur** *Temperature*	:	**35 °C**
Niederschlagsmenge *Quantity of precipitation*	:	**2,0 ml/h**	**pH-Wert Prüflösung** *pH-value of test solution*	:	**6,6**
Dichte der Prüflösung *Density of test solution*	:	**1,039 kg/l**			
Bewertung *Evaluation*					
Beurteilung gem. *Examination acc. to*	:	**ASTM B117**			
Bewertung *Evaluation*	:	**Kein Angriff sichtbar.** *No visible attack*			

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Macrodocumentation of test piece – 5 ½“ JFE BEAR CE PIN Connector [L0290]

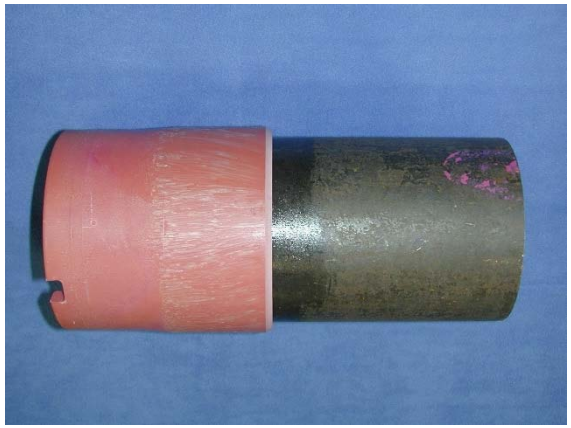

Fig. 1: Delivery condition

Fig. 2: Sample in the test chamber

Fig. 3: Sample after 1000 h NSS-Test

Fig. 4: Overview after 1000 h NSS-Test

Fig. 5: Thread below the protector

Fig. 6: External thread after NSS-Test in detail

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Fig. 7: Inside view

Fig. 8: Inside view