



**Subject:** Research report Hydynamic

**Date (start test):** 19-02-2021

**Method:** Neutral salt spray test according to ASTM B 117-03

**Product:** Fittings basic material steel 37

**Surface:** 3x Zink nickel and 3x Chrome-VI free, galvanised

**Requirement:** Zink nickel 800 hours red rust free, Chrome-VI free, galvanised 450 hours red rust free

**Implementation:** The 6 test parts were placed in the salt spray cabinet and tested according to ASTM B 117-03. A 5% NaCl solution (pH 6.5- 7.2) was atomized in the cabinet at a temperature of  $35 \pm 1^\circ\text{C}$ . The amount of mist collected is between 1 and 2 ml per hour per  $80\text{cm}^2$  and the salt concentration of the collected solution is  $5 \pm 1\%$  (m/m).

Start occurrence of red rust is the moment when the test of the respective test part is terminated.

Assessment of the "white rust" is performed according to rating:

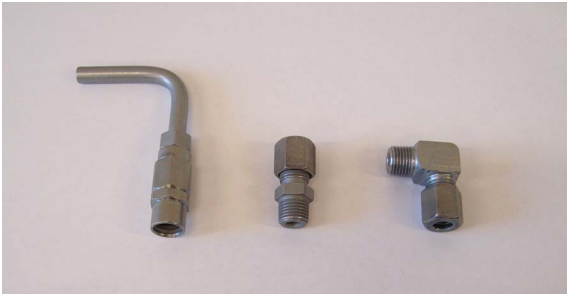
- |          |                    |
|----------|--------------------|
| 1: 0%    | 6: 10-25%          |
| 2: 0-5%  | 7: 25%             |
| 3: 5%    | 8: 25-50%          |
| 4: 5-10% | 9: 50%             |
| 5: 10%   | 10: Start red rust |

## Results:

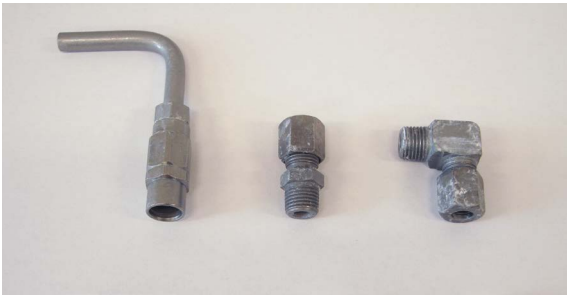
Product	After 200 hrs	After 300 hrs	After 450 hrs	After 672 hrs	After 800 hrs
Screw + hose stud zink-nickel	2	2	2		4
Straight cutting ring fitting zink-nickel	2	2	6		8
Elbow cutting ring fitting zink-nickel	4	4	6		8
Screw + hose stud galvanised	10				
Straight cutting ring fitting galvanised	8	8	9	10	
Elbow cutting ring fitting galvanised	8	8	10		

**Conclusion:** Of the galvanized parts, the straight cutting ring fitting meets the requirement 450 hours free of red rust. All zinc-nickel parts meet the requirement of 800 hours free of red rust.

## Zn/Ni



Start test | Zink-nickel (Zn/Ni)



200 hours



300 hours



450 hours



800 hours

## CrIII



Start test | Galvanised (CrIII)



200 hours



300 hours



450 hours



672 hours