

Visit Report

To : XIAA
Cc : FNM, CAAG, GUOS, LINR, ZHLE, XUEA, LIAW, FUJT, GUOC, ZHAI, YAVY
From : XIOX

Date of visit: 17 Jul. 2023
Date of report: 24 Jul. 2023

Riifo

Participants : Riifo : Mr. Li xianmin (*R&D engineer*)
EMS : A.Xiang, B. Xiong
OEM : Riifo
Sales responsible : Alfred Xian
Distributor : No
Location : Foshan, Guangdong
Application : Push quick fitting of piping system
Segment Code : 410
Project number : 410-221125-1
Material : Grilamid TR 60 or XE 11292 (TR HT 200), natural & white C2 3414.6
USP : Anti-freezing, anti-cracking, long-term hot water hydrolysis resistance
Potential : 10 t/a
SOP : 07. 2024



1. Target of visit

Support sampling of collects for Riifo F7U push quick fitting for reliable test validation.

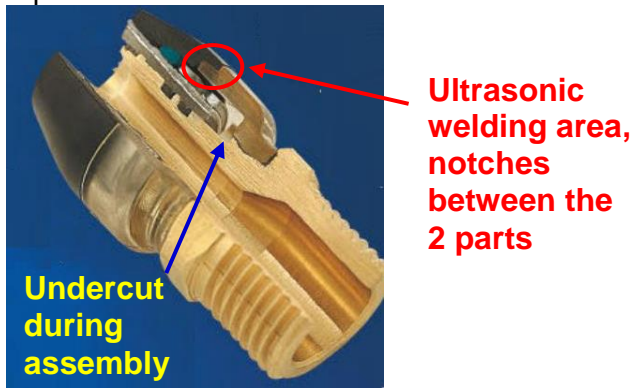
2. Summary

- PPSU replacement due to Solvay supplying shortage and cost reduction.
- Trial stopped due to machine trouble (back pressure was no working) and moisture was rise after dry-blend with pigments (TR 60 white was 0.1%, TR HT 200 white was 0.09%) resulting in silver streak.
- Support next trial after rescheduling injection machine by 15th Aug.

3. Details

- Unstable supplying and high price of PPSU (Solvay Acudel 22000), Riifo is seeking replacement material.
- The push quick fitting is for prompt repairing of PEX-Aluminum-PEX piping system, which his typical use for floor cooling & heating system.
- Material requirement: elongation @break >30%, Elongation at yield >=7%, and hot water hydrolysis resistance.

- Well bonding strength of white and transparent parts thru ultrasonic weldline is required, **potential risk of cracking** during the test might happen due to bonding notches between the 2 parts.



- Grilamid TR 55 and TR 90 failed in 95°C hot water @ 2.04MPa pressure test, leakage in 24hrs (requiring >1000hrs).
- Grilamid TR 60 and TR HT 200 promoted as the candidate materials.
- Trial stopped due to machine trouble (back pressure was no working) and moisture was rose after dry-blend with pigments (TR60 white was 0.1%, TR HT 200 white was 0.09%). resulting in silver streak.

Part & Test Requirement

- Tensile test
 - Short team: 4300N@1h, 0.6MPa air pressure no leakage
 - Long team: 2800N@800hrs, 0.6MPa air pressure no leakage
- Hydrostatic test:
 - Short team: 95°C hot water / 2.83MPa pressure / 1h, no leakage
 - Long team: 95°C hot water / 2.04MPa pressure / 1'000hrs, no leakage
- High and low temperature cycle: Immersed in water, 5'000 cycles (20°C@15min, 95°C@15min), no leakage
- High and low pressure impact cycle: immerse in 23±2°C water, 10'000 cycles (1.5MPa±0.05@30min, 0.1MPa±0.05@30min), no leakage
- Using temperature at -25°C, no crack

4. Actions

No.	Action	Resp.	Due date
1	Support for next trial	LINR	15 Aug. 2023

5. Attachments

Structure overview of push quick fitting

Best regards,

Bandy Xiong

#1 Structure overview of push quick fitting

