

CALL REPORT

BUILDING TRUST



CUSTOMER
WPC 2020 Ltd

ORIGINATOR
Jeff Hawker

DATE
6 Decmber 2022

SITE ADDRESS
19 Nga Mahi Road
Sockburn, Chch

CONTACTS
Brendon Langley

CIRCULATION
WPC 2020Ltd

HISTORY

Routine observation report to assist WPC 2020 Ltd with their repair options to the external precast concrete panel joints and fibre cement cladding joints to a set of commercial warehouse & office units built approx. 10 years ago. **This is a second report and for units 9 – 19.**

OBSERVATION

Photo 1 – Close up of failed joint between fibre cement to fibre cement joints. (Unit 13)

Photo 2 – Joint sealant failing between concrete panel & fibre cement cladding.

These are the same issues as we found in Units 1 – 8 (separate report). We have only looked at two joints and assume the balance of joints are similar on the rest of the units.

FINDINGS

Photo 1 – No bond breaking tape used between fibre sheets, so sealant has adhered to base of joint resulting in 3-sided adhesion which doesn't allow the sealant to move as intended. This results in the sealant either tearing within itself (cohesive failure) or pulling off the substrate (adhesive failure) depending upon what is weakest. Not installed correctly.

Photo 2 - lack of good joint design (triangular not rectangular/square), no bond breaking tape and incompatible material (bitumen flashing tape). Flashing tape has been wrapped around onto precast panel leaving little room for sealant to be adhered to the concrete. Poor joint design and not installed correctly.

Precast Panel Joints – joints to precast panels vary in width from approx 10mm wide. Assume to be similar to units 1 – 8.

Sealant was failing adhesively to the concrete substrates. No evidence of a primer being used. Joint could be failing due to excessive movement but without knowing what the width of the joint was at then time of installation it is harder to determine. Joints too narrow - concrete shrinkage and thermal expansion/contraction could be the likely cause.



Photo 1



Photo 2

RECOMMENDATIONS

Photo 1 – cut out failed sealant, clean joint edges, install suitable bond breaking tape to base of joints, prime joint edges and seal with Sikaflex MS.

Photo 2 – more investigation needs to be done to determine if the fibre cement has been installed correctly at this junction and what the alternate solution may be.

Precast Panel Joints – Cut out failed sealant, clean joint edges, install new backing rod, prime joint edges with Sika Primer 3N and seal with SikaHyflex 250 Façade which is a more flexible sealant. If someone can determine how much these joints are moving then we can confirm the above recommendation.

The information contained herein and any other advice are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. The information only applies to the application(s) and product(s) expressly referred to herein. In case of changes in the parameters of the application, such as changes in substrates etc., or in case of a different application, consult Sika's Technical Service prior to using Sika products. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

SIKA (NZ) LIMITED

P.O. Box 19192 · Avondale · Auckland 1746 · New Zealand
Phone: 0800 745 269 · Fax: 0800 745 232 · www.sika.co.nz