

# Optimum Coating Solutions Pty Ltd

ABN: 6612 4555 371

## CERTIFICATE OF TEST

2020

**Test for:** Shrinkage / Expansion Determination

**Test Material:** OPTEK HBT (Cementitious Mortar)

**Finding:** OPTEK HBT is a restrained expansion mortar.

**Test Method:**

1. AS 1012.13-1992. Methods of testing concrete – Determination of the dry shrinkage of concrete for samples prepared in the field or in the laboratory.
2. ASTM C 806-87 Test Method for Restrained Expansion of Expansive Cement Mortar.

**Test Specimens:** 6 of prisms 280x75x75.

**Preparation:** OPTEK HBT composition prepared in accordance with application instructions. The specimens were initially cured and after demoulded after 24 hours from moulding. After that they were transported and kept in a room for the shrinkage experiments. Optical measurements of the strain of the prisms were obtained from the embedded FBG sensors. A length comparator together with a 295 mm reference bar was used to measure the actual fractional length change of the prisms. The relative humidity (RH) was 80-90% to the age of 7 days at temperature 23 °C and 55-65 % for age of 7-28 days at temperature 23 °C.

**Test Results:** Table 1: OPTEK HBT (Cementitious Mortar)  
Average Shrinkage / Expansion

Name	Shrinkage (-) / Expansion (+), microstrain			
	1 day	3 days	7 days	28 days
OPTEK HBT (mortar)	-	+ 220	+ 235	+ 255

Test Report No.: 0040  
Date of Issue: 1/12/04

Victor Vyrodov PhD (Building Materials)  
Managing Director



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