



valid until: November 10, 2028

Fraunhofer

TESTED[®] DEVICE

Tsubakimoto Chain Co.
Flatveyor ZP Type R100
Report No. TS 2310-1469

Single product Particle Emission

DUPLICATE

Qualification Certificate

This is to certify that the product mentioned above, provided by

Tsubakimoto Chain Co.
Kyoto, Japan

has been awarded a Fraunhofer certificate TESTED DEVICE bearing the report number TS 2310-1469.

The cable system Flatveyor ZP Type R100 (color: white) was assessed in compliance with ISO 14644-14. When operated under the specified test conditions, it is suitable for use in cleanrooms fulfilling the specifications of the following Air Cleanliness Classes according to ISO 14644-1:

Test parameter(s)	Air Cleanliness Class
$v_1 = 0.5 \text{ m/s}; a_1 = 1.0 \text{ m/s}^2$	1
$v_2 = 1.0 \text{ m/s}; a_2 = 2.0 \text{ m/s}^2$	1
$v_3 = 2.0 \text{ m/s}; a_3 = 4.0 \text{ m/s}^2$	2
Overall result	2

Please note: Transport damages, incorrect installation, aging behavior etc. can influence the test result.

TS 2310-1469
Report No. first document

Stuttgart, November 10, 2023
Place, date of first document issued

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Report No. current document

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Place, current date

on behalf of 
Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA

This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under www.tested-device.com. Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.