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APPROVAL REPORT

**PIPE HANGERS FOR FIRE PROTECTION
SPRINKLER SYSTEMS (RE-EXAMINATION)
MODELS TCS-0, TCS-0LC, TCS-1 AND TCS-2 BEAM
CLAMPS FOR USE WITH $\frac{3}{4}$ INCH THROUGH 8 INCH
NOMINAL SIZE PIPE.**

Prepared for:

**Sikla GmbH & Co. KG
Schillerstabe 5
Hausen OV, Germany 78595**

Project ID: 3020147

Class: 1951

Date of Approval: August 6, 2007

Authorized by: 
Richard B. Dunne, Manager-Hydraulics Group

**PIPE HANGERS FOR FIRE PROTECTION SPRINKLER SYSTEMS (RE-EXAMINATION)
MODELS TCS-0, TCS-0LC, TCS-1 AND TCS-2 BEAM CLAMPS FOR USE
WITH 3/4 INCH THROUGH 8 INCH NOMINAL SIZE PIPE**

from

**Sikla GmbH & Co. KG
Schillerstabe 5
Hausen OV, Germany 78595**

I INTRODUCTION

1.1 The Sikla GmbH & Co. KG., Models TCS-0 and TCS-0LC beam clamp pipe hangers, with a nominal 3/8 inch (10mm) hanger rod, for use with 3/4 inch (20mm) through 4 inch (100mm) nominal size pipe were evaluated in the subject Re-Examination Project. The Sikla GmbH & Co. KG., Model TCS-1 beam clamp pipe hanger, with a nominal 3/8 inch (10mm) hanger rod, for use with 3/4 inch (20mm) through 4 inch (100mm) nominal size pipe was evaluated in the subject Re-Examination Project. The Sikla GmbH & Co. KG., Model TCS-2 beam clamp pipe hanger with a nominal 1/2 inch (12mm) hanger rod, for use with 3/4 inch (20mm) through 8 inch (200mm) nominal size pipe was evaluated in the subject Re-Examination Project. The Models TCS-0, TCS-0LC, TCS-1 AND TCS-2 pipe hangers discussed in this report are manufactured at the Hausen OV, Germany facility.

1.2 This Report is limited to the examination of the pipe hangers in accordance with the standard listed below as described in Section 1.4 of this Report

1.3 This Report may be freely reproduced only in its entirety and without modification.

1.4 Standards

Title	Class Number	Date
Pipe Hanger Components for Automatic Sprinkler Systems	1951, 1952, 1953	September 2003

1.5 The products will appear in the Approval Guide as follows :
Sikla GmbH & Co KG, Schillerstraße 5, 78595 Hausen OV, Germany

Product Designation	Hanger Rod Size, mm	Component Description	For Nominal Pipe Sizes, in.
TCS-0	10	Beam Clamp	3/4 through 4
TCS-I	10	"	3/4 through 4
TCS-II	12, 16	"	5 through 8 *
TCS 0LC	10	Beam Clamp	3/4 through 4

* Approved for use with the set screw on the load side

II DESCRIPTION

The Models TCS-0, TCS-0LC, TCS-1 and TCS-2 beam clamps are manufactured from ductile cast iron and zinc coated. The Models TCS-0 and TCS-0LC beam clamp pipe hangers utilize a nominal $\frac{3}{8}$ inch (10mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) nominal size pipe. The Model TCS-1 beam clamp pipe hanger utilizes a nominal $\frac{3}{8}$ inch (10mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) nominal size pipe. The Model TCS-2 beam clamp pipe hanger utilizes a nominal $\frac{1}{2}$ inch (12mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 8 inch (200mm) nominal size pipe.

III EXAMINATIONS AND TESTS

- 3.1 Sample pipe hanger models as detailed below were submitted for examination and testing. The samples were considered to be representative of the product line and were examined, tested, and compared to the manufacturer's drawings. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.
- 3.2 Tensile tests, described in sections 3.3 through 3.6, were conducted in order to determine the ability of the pipe hanger components to support five times the weight of water filled Schedule - 40 steel pipe plus 250 lb. (93.3 kg) with a hanger spacing of 12 ft. (3.7 m) without exceeding a displacement of 3/16-inch (4.76 mm) in the direction of the load.
- 3.3 Samples of the Model TCS-0 beam clamp pipe hangers utilize a nominal $\frac{3}{8}$ inch (10mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) nominal size pipe were tested. The samples tested, with the set-screw on load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) pipe. The samples tested, with the set-screw opposite load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) pipe. The results of these tests were deemed satisfactory.
- 3.4 Samples of the Model TCS-0LC beam clamp pipe hangers utilize a nominal $\frac{3}{8}$ inch (10mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) nominal size pipe were tested. The samples tested, with the set-screw on load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) pipe. The samples tested, with the set-screw opposite load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) pipe. The results of these tests were deemed satisfactory.
- 3.5 Samples of the Model TCS-1 beam clamp pipe hangers utilize a nominal $\frac{3}{8}$ inch (10mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) nominal size pipe were tested. The samples tested, with the set-screw on load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) pipe. The samples tested, with the set-screw opposite load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 4 inch (100mm) pipe. The results of these tests were deemed satisfactory.

- 3.6 Samples of the Model TCS-2 beam clamp pipe hangers utilize a nominal $\frac{1}{2}$ inch (12mm) hanger rod, for use with $\frac{3}{4}$ inch (20mm) through 8 inch (200mm) nominal size pipe were tested. The samples tested, with the set-screw on load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 8 inch (200mm) pipe. The samples tested, with the set-screw opposite load side, successfully passed the requirements of tensile load and maximum elongation for use with $\frac{3}{4}$ inch (20mm) through 8 inch (200mm) pipe. The results of these tests were deemed satisfactory.

IV MARKING

Stamped on the pipe hanger is the manufacturer logo, the product designation, the product size, other testing organization marks, and the FM Approvals Mark of Approval.

V REMARKS

The pipe hangers described in this Report are Approved only when manufactured at the following facility:

Schillerstraße 5, 78595
Hausen OV, Germany

VI FACILITIES AND PROCEDURES AUDIT

The manufacturing at the Schillerstraße 5, 78595 Hausen OV, Germany facility is currently included in FM Approval's Facilities and Procedures Audit program. The addition of the products, examined within this Report represent no change to manufacturing or quality control procedures. The facilities and quality control procedures in place have been found to be satisfactory to manufacture product identical to that examined and tested as described in this Report.

VII MANUFACTURERS RESPONSIBILITIES

Documentation considered critical to this Approval is on file at FM Approvals and listed in the Documentation File, Section VIII of this Report. No changes of any nature shall be implemented unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The Approved Product Revision Report, Form 797, shall be forwarded to FM Approvals as notice of proposed changes.

VIII DOCUMENTATION

The following drawings describe the pipe hanger components listed in Section 1.5 of this Report and are maintained on file in the Hydraulics Information Center under Project Identifier 3020147.

Drawing No.	Drawing Title	Revision
012/93	TCS OLC	F
011/93	Trager TCS OLC	G
099/99b	TCS 2	0
028/79	TCS 1	G
083/99	TCS 0 bear	F
022/00b	TCS 0 Zusa	0

IX CONCLUSION

The pipe hanger components described in Section 1.5 of this Report meet FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, Approval is effective the date of this report.

EXAMINATION: Robert L. Ilewicz

TESTING BY: John Normington

TESTING WITNESSED BY: Robert L. Ilewicz

PROJECT DATA RECORD: 3020147

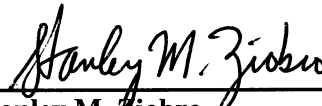
ORIGINAL TEST DATA: 3020147

REPORT BY:

REPORT REVIEWED BY:



Robert L. Ilewicz
Engineer- Hydraulics



Stanley M. Ziobro
Technical Team Manager – Hydraulics