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Rolling Steel Fire Doors Bolted Onto Steel Tubes, Set Against Face of Fire-Rated Walls

Introduction

Some 3 hour masonry and non-masonry walls are not suitable for mounting fire door guides to the jambs. In many instances, the jambs have not been designed to hold the load imposed by the rolling steel fire door.

DASMA sponsored a test of a rolling steel fire door mounted on steel tubes set against a 3-hour non-masonry wall. This Technical Data Sheet, based on the results of the testing, presents the concept of connecting steel tubes to the floor/sill and also to the wall above the opening or to a building's structural ceiling framing. The steel tubes themselves are not fastened to the wall. A steel tube is designed to fit over a base plate assembly, which is fastened to the floor/sill. The top-of-tube assembly secures the tube to the structural roof joists or slab above.

On masonry walls, the top-of-tube assembly may be through-bolted in the wall. There is a slip fit between the top-of-tube assembly and the steel tube to provide tube expansion during a fire emergency. Information on steel tube size, steel tube thickness, base plate assembly and top-of-tube assembly can be found in the fire door manufacturer's UL and FM procedures.

Spacing the door out from the wall will create a gap at the top of the hood. This gap must be closed in a manner acceptable to the authority having jurisdiction, with material suitable for attachment of the hood when required.

Objectives

The objectives of preparing the set of attached details are

- to show the basic concepts in a generic way, without being manufacturer-specific regarding detail, and
- to show the three-angle guide and the four-angle guide options.

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This Technical Data Sheet was prepared by the members of DASMA's Rolling Door Division Technical Committee. DASMA is a trade association comprising manufacturers of rolling doors, fire doors, grilles, counter shutters, sheet doors, and related products; upward-acting residential and commercial garage doors; operating devices for garage doors and gates, sensing devices, and electronic remote controls for garage doors and gate operators; as well as companies that manufacture or supply either raw materials or significant components used in the manufacture and installation of the Active Members' products.

ROLLING DOOR DIVISION
TECHNICAL DATA SHEET
#273

Attachment Contents

- Figure 1: “E” mounted guide configuration; exposed steel tube
- Figure 2: “Z” mounted guide configuration; exposed steel tube
- Figure 3: Exposed tube mount detail, showing top of tube mount to ceiling
- Figure 4: Exposed tube mount detail, showing top of tube mounted to masonry wall via top-of-tube assembly
- Figure 5: Exposed tube mount detail, showing top of tube mounted to masonry wall via top-of-tube sleeve

General Notes

1. Existing wall construction covered.
2. Details are for general information only. See manufacturer’s installation instructions.
3. Consult a structural engineer for actual wall construction.
4. Details are attached to TDS-273.
5. Details apply to masonry, drywall and sodium silicate walls.
6. Steel tubes cannot be mounted between jambs.

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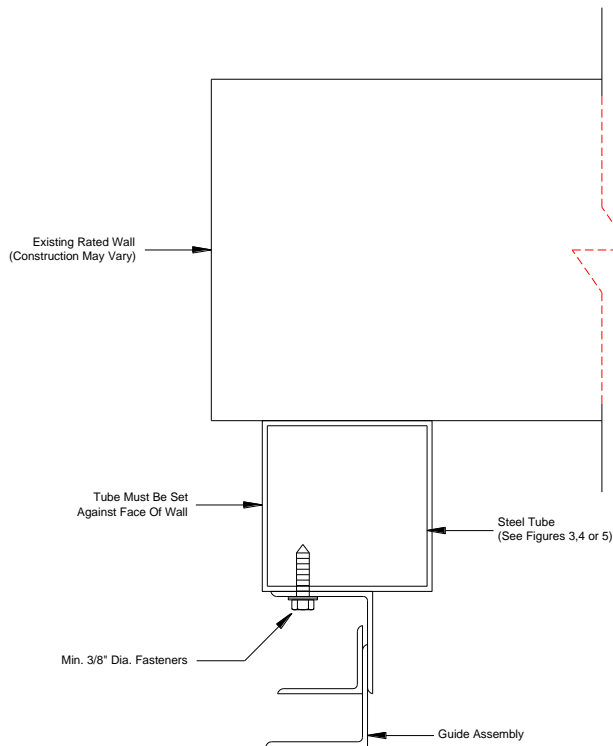


Figure 1

Note: Steel Tubes Cannot Be Mounted Between Jambes

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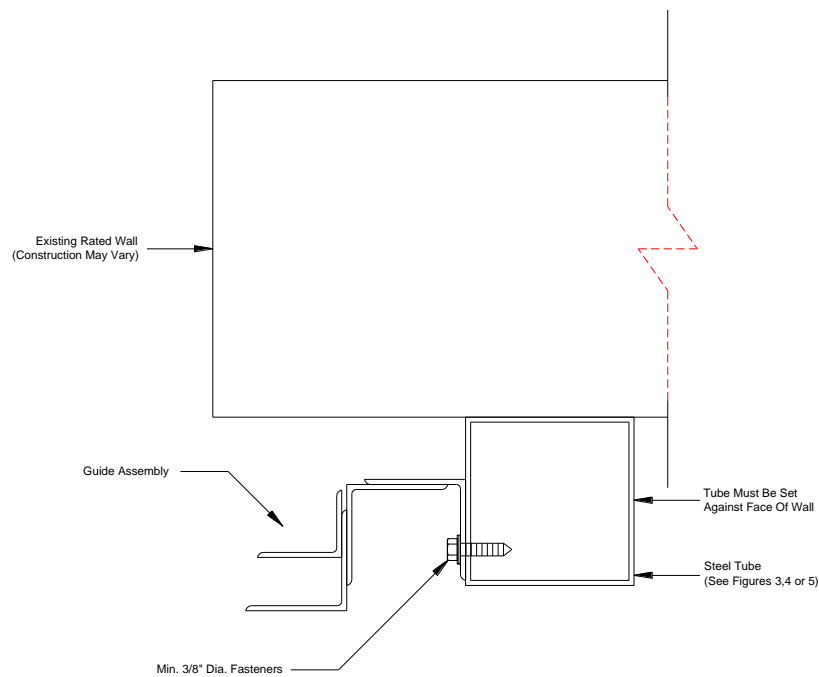


Figure 2

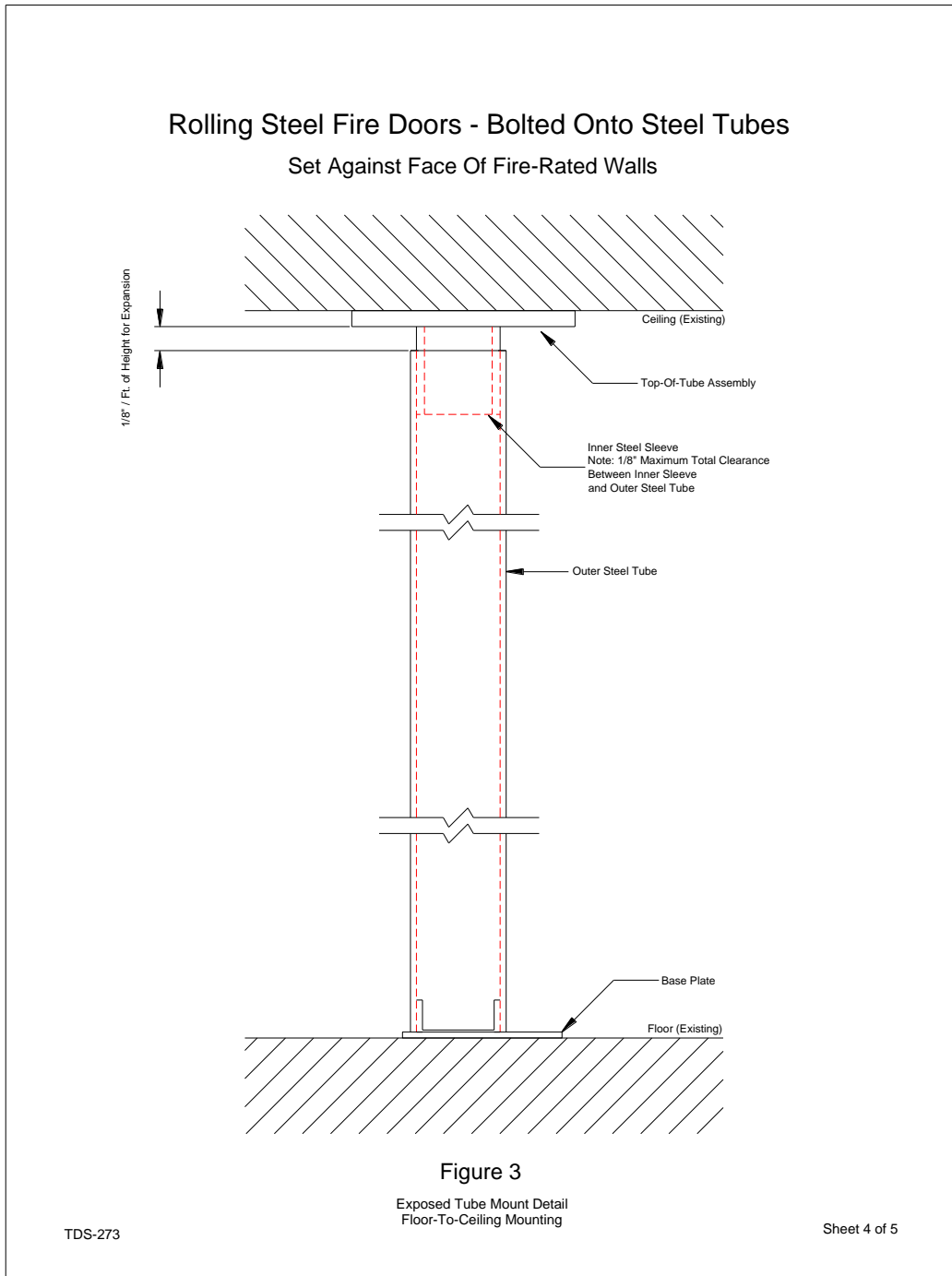
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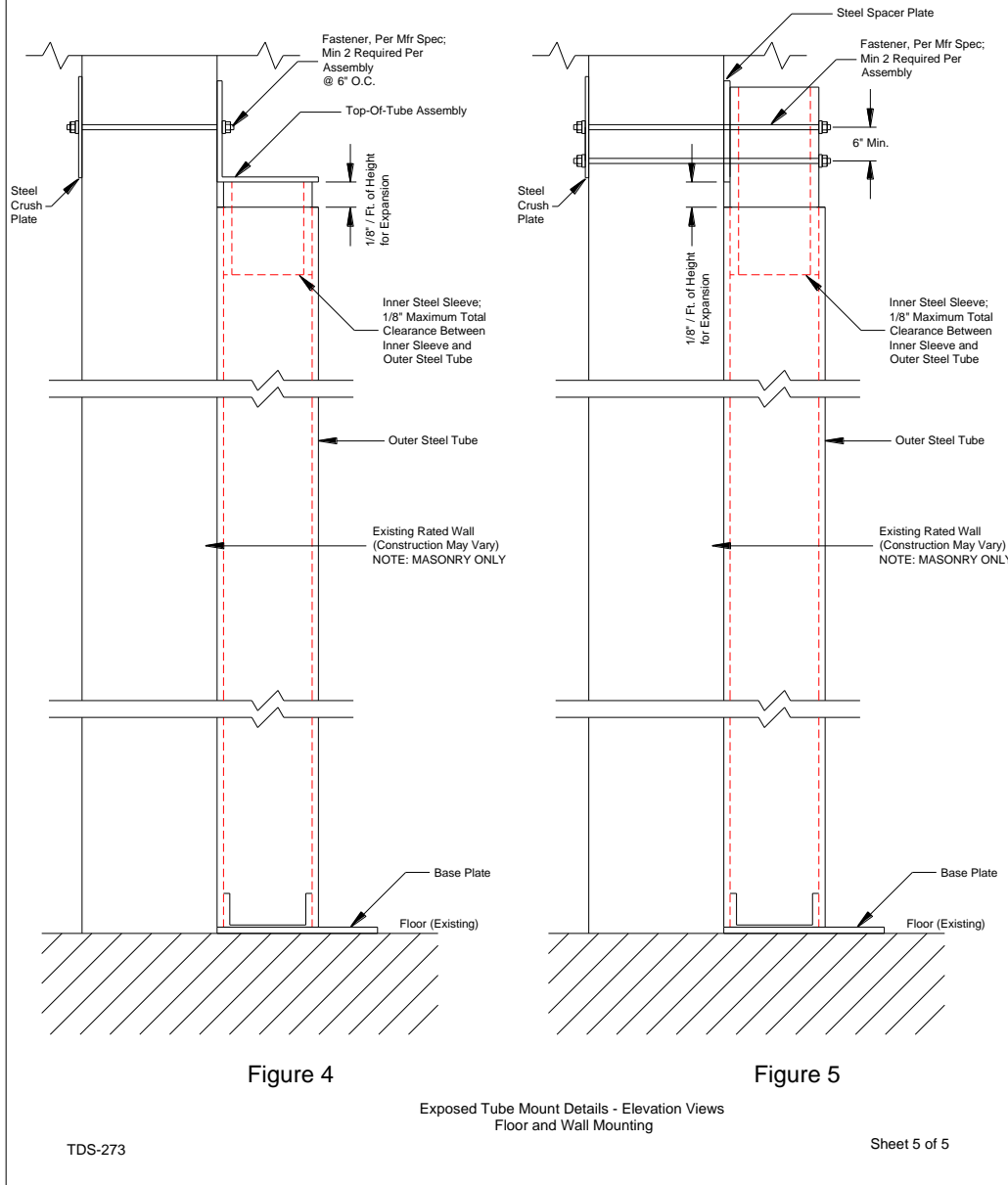
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