

2010, It's Time for a Change.

FOR THE 2010 CALENDAR YEAR, THE DHI Tech Tips will focus on specification writing in one fashion or another. Consultants who are regularly engaged in writing door, frame, and hardware specifications will no doubt find some of the Tech Tips immediately useful in their daily work. Others will find these Tech Tips to be timely reminders and use them to refresh their specification writing knowledge as they practice honing their skills in preparation for achieving another level of certification or making a change in their professional career.

Regardless of which category of Tech Tip reader you fall into, you will find it necessary to have a copy of the Construction Specifications Institute's (CSI's) *The Project Resource Manual: CSI Manual of Practice* (fifth edition), in order to successfully complete the monthly assignments. *(Copies of the CSI PRM can be purchased directly from CSI's web site at www.csinet.org or DHI's web site at www.dhi.org—the current cost of the PRM is \$295, plus applicable shipping and handling charges. CSI members can save \$59 by purchasing the PRM directly from CSI.)*

Each monthly Tech Tip will include a reading assignment taken directly from the Project Resource Manual (PRM), followed by an exercise that builds on the fundamentals and principles covered in the assignment. Exercises will include writing an article or two of a specification (e.g., doors, frames, and hardware), reading an excerpt from a specification and answering a series of questions based on the excerpted content, and answering a series of questions based on the information covered in the PRM reading assignments.

We sincerely hope that you find the 2010 series of DHI Tech Tips to be genuinely educational and useful in your ongoing career development.

DISCLAIMER: The nature of these specification writing exercises requires the use of actual products that are in use on today's project. The Door and Hardware Institute does not endorse any product over another. The use of product numbers in these exercises is necessary to fully evaluate the specification writer's product and application knowledge. Specifications written as part of the Tech Tip assignments become the sole property of DHI. DHI reserves the right to reproduce these specifications, in whole or in part, as part of its educational program.

Writing hardware specifications is a tedious task. How many times have you seen poorly written specifications that are ambiguous or filled with errors? Understanding the different methods of specifying products, services, installation and administrative requirements is essential to creating a well-written specification.

There are four primary methods of writing specifications—Descriptive, Reference, Performance, and Proprietary. In most cases, specifying architectural hardware products requires the use of two or three of these methods. For example, proprietary specifications require the inclusion of manufacturer's model numbers, which set the baseline for the quality, design, and function for that product. However, most products require further description to completely specify the options, functions, and accessories that are needed for a particular project.

Case in point, conventional hinges. A well-written specification for conventional hinges will include the rules for determining the number of hinges per door leaf, sizing the hinges in thickness, height and width based on door size and/or frequency of use, the types of bearings (e.g., plain, anti-friction or ball bearing) and describing where options like

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non-removable pins (NRP), hospital tips or other options are required. Most conventional hinge specifications are written using the Descriptive and Proprietary methods of specification writing. While

other specifications will also include references to the Builders Hardware Manufacturers Association's (BHMA's) A156.1 standard for Butts and Hinges.

Study On Your Own... January, 2010

Reading Assignment: PRM Section 5.7, Methods of Specifying, (pages 5.59 through 5.69).

Exercise: Using the Descriptive, Reference, and Proprietary methods of specification writing (as explained in the PRM), write a specification article for surface mounted door closers. Base your specification and selection of door closers on the products that are appropriate for a new senior high school.

Your specification needs to include the following:

- Model numbers from more than one manufacturer
- The full compliment of features for door closers
- Options
- Accessories
- Special functions (e.g., swing-free, single, and multi-point hold open)

Only Tech Tip assignments that are submitted via fax or mail and are accompanied by the monthly form will be

accepted. Email submissions will not be acknowledged or accepted. Each Tech Tip is valued at 3 technical CEP points—partial points are NOT awarded for incomplete submissions. Be sure to include your name (and DHI ID number), date of submission, and the Tech Tip number at the top of each page of your written assignment(s).

CAUTION: Remember, the specification writing assignments are to be your original work. Do NOT submit manufacturer's or other specifications, regardless of their source, as your own work. Submission of plagiarized work will result in non-recognition of CEP points for that assignment.

On the first working day of the following month, the answer(s) will be posted in the Tech Tips section of the DHI web site. In some cases, examples (good and bad) of specifications that were submitted will be posted with an explanation discussing the highlights and important elements of each month's assignment.

You will earn 3 CEP points by reading the article and answering the problems. Upon completion, copy or detach this page, fill in the form below, and submit your answers by mailing or faxing the page to DHI.



Door and Hardware Institute

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Name: _____ DHI ID number: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Retain a copy of this exercise for your Continuing Education renewal application. Answers to these problems will be posted on our website (www.dhi.org) on the first day of the next month following the issue month of the magazine.

Study On Your Own... January, 2010 — Answer

While there are various ways to construct the sentences that form the specifications for surface mounted door closers, there are key points that are essential to specifying them correctly. The essential points for specifying surface mounted door closers include:

- Manufacturer's model numbers
- Description of features, options, and accessories
- Rules for appropriately sizing the spring power of door closers
- Voltage requirements for electromechanical closer functions

This month's Tech Tip exercise requires you to submit a specification that is written using the CSI's Descriptive, Proprietary, and Reference Standard methods of specification writing. The subject for this exercise is surface mounted door closers that would be used on a new senior high school.

Your specification needs to include the following:

- Model numbers from more than one manufacturer
- The full complement of features for door closers
- Options
- Accessories
- Special functions (e.g., swing-free, single, and multi-point hold open)

The following is one example of how a specification for surface mounted door closers might be formatted:

Surface Mounted Door Closers

Provide surface mounted door closers that meet or exceed the requirements of BHMA A156.4, for grade one door closers.

Provide surface mounted door closers to suit door and frame conditions and allow door leaves to travel to the full open position. Include full nonmetallic covers, adapter plates, drop brackets, tracks, arms, and shoes as needed. Hand and size door closers in accordance with manufacturer's recommendations for door width, height, and frequency of usage. Where parallel arm closers are scheduled, provide heavy duty parallel arms, soffit brackets, and spacers. Furnish parallel arms with spring-loaded stops and hold-open features, where scheduled in the hardware sets. Door closers shall have separate sweep, latch, and back check cycle controls. Provide door closers with delayed action closing feature, where scheduled in the hardware sets. Door closers installed on non-fire rated door assemblies shall have a maximum 5 lbf of opening force.

Electromechanical hold-open closer functions shall meet or exceed the requirements of BHMA A156.15, grade one, and be designed for 24 volt direct current (VDC); include terminals to connect to fire, smoke, or heat detector systems. Include manufacturer's recommended transformers to provide 24VDC power to closers.

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Study On Your Own... January, 2010 — Answer continued

Provide door closers from one of the following manufacturers:

ABC*

Model 1234*

Model 9876 with
swing free arm*

Model 9875 single
point hold-open*

Model 9879 multiple
point hold-open*

XYZ*

Model 3210*

Model 6543 with
swing free arm*

Model 6542 single
point hold-open*

Model 6549 multiple
point hold-open*

**Fictitious manufacturers and model numbers have been used for example purposes only. Live specifications require the usage of actual manufacturers and model numbers.*

Descriptive specification writing method

Proprietary specification writing method

Reference Standard specification writing method

Points to Consider: Many specifications for surface mounted door closers include mention of the materials used to form the closer bodies, arms, and brackets. Depending on the nature of the project and whether the specification is an open or closed proprietary specification, it might be

necessary to include this level of detail as the issue of product substitutions allows for non-specified products to be used. Frequently, however, specification writers will state that the closer bodies are required to be either cast aluminum or cast iron, but then go on to list model numbers of products that are manufactured from the opposite, thereby setting up a conflict in their own specifications.

Take several minutes to review your specification and compare it to the example. Have you included all of the functions, features, options, and accessories that would be needed for surface mounted door closers that are used on a senior high school? What questions can you foresee that suppliers might have as they bid and later detail the surface mounted door closers? Put yourself in the place of the people who will be reading your specification, do you understand the requirements that you stated in your specification? Try not to read into your specs details and information that isn't there or expect that others will "know what you meant." Remember, you cannot quantify "good intentions."



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