
White Paper: Flagpole Architectural Specifications – When is something that should be good actually bad?

As Flagpole specialists, we get a number of “specification packages” (or “Section 10-7500” specs based generally on the Construction Specifications Institute (CSI) Master Format numbering system) as part of bid requests from end-users, consultants, or general contractors. It’s amazing the incorrect or erroneous information many of these specification packages contain. It seems that there are a number of “templates” that must be circulating throughout the engineering or architectural consulting industry, that are meant to be used as a starting point for specifying flagpoles, which are meant to be tailored or customized for the specific desires and requirements of the project. But in many cases, either the consultants or engineers don’t realize that the templates have to be modified, or someone is in a hurry or sends them without an adequate knowledge about flagpoles. When this happens, and when these packages are sent out “as is” with no modification or customization, it results in a package that is generally worthless in terms of actually specifying what the client wants or needs.

The number one problem we see in the majority of spec packages that we receive for our specific market and installation here in the Middle East, is the foundation or mounting method specified. Most of the packages call for a “ground set” method of mounting the poles, which is very common in the United States, but is generally not recommended or used for our local market in the UAE and the Middle East in general. For this “ground set” mounting method, approximately 10% of the flagpole shaft is supposed to be embedded into the ground inside a corrugated metal tube (sometimes called a “Metal foundation tube”) and backfilled with sand, instead of mounting the flagpole using a base plate with anchor bolts embedded into a concrete foundation. We do not recommend this “ground set” type of mounting due to the standard soil and weather conditions encountered here in Dubai and the Middle East, and strongly recommend a standard base plate / foundation mounting method.

Additionally, we find a lot of conflicting information in the specification packages that we receive, due to the consultant or contractor not taking the time to customize the final package, which results in confusion as to what is actually required or desired. Some examples of this include:

- The specification states several different materials or types for the desired flagpoles (Aluminum, Fiberglass, Steel), which are mutually exclusive. The consultant / end-user needs to specify which of these options are desired.
- The specification states a requirement for both “Internal Halyard” and “External Halyard” to be supplied with the flagpole. These two options are mutually exclusive. The consultant / end-user needs to specify which of two options are desired.
- The specification states a desire for three or more different finishes (Brushed Satin Finish, Clear Anodic Finish, Color Anodic Finish, Powder Coated Finish, etc.) which are all mutually exclusive. The consultant / end-user needs to specify which of the various finish options are actually desired.

One of the other common problems we see is the Specification states that “*Wind Loads must be determined according to NAAMM FP 1001*”. While it is certainly appropriate to state that the structural design of the flagpole must meet the standards and criteria of NAAMM FP1001 (which is the ANSI / NAAMM FP 1001-07 “Guide Specifications for Design of Metal Flagpoles” standard published by the American National Standards Institute and the National Association of Architectural Metal Manufacturers, which is the recognized standard for metal flagpoles), the ANSI NAAMM FP 1001 standard itself does not provide the wind speeds that should be considered for the design, other than for US locations. The NAAMM FP1001 document includes a chart of wind speeds for locations throughout the U.S., which are the basis for determining the applicable wind loads, but it does not include this data for the rest of the world. The consultant / end-user needs to specify the desired wind speed / wind loads to which the flagpole should be designed (in accordance with the structural calculations outlined in NAAMM FP1001-07). We normally recommend a design wind speed of 140 km/ hr based on local building codes and other conditions encountered here in Dubai and the UAE, and all our Prestige Flagpoles™ are designed in accordance with this standard.

We also frequently see other requirements that are factually wrong, or are generally outside the norm for the flagpole industry, or are not desired or required. Examples of these include:

- The specification states that “*Cone tapered flagpoles shall be fabricated from seamless extruded tubing complying with ASTM B 241/B 241M, Alloy 6063, with a minimum wall thickness of 4.8 mm.*” (This was from an actual specification we received for 6m aluminum flagpoles). There are two problems with this specification statement:
 - This spec actually cites an incorrect ASTM standard or specification, based on the intended usage. ASTM B241 refers to aluminum piping for pressure applications, and is not generally intended for structural applications. The correct standard should be ASTM B221, which is the common reference for structural tubing.
 - Also, the required wall thickness of the flagpole is normally determined based on the structural calculations and design standards of ANSI/ NAAMM FP 1001-07, as per the designated wind speeds. The specified wall thickness of 4.8mm is not consistent with a 6m height flagpole based on an assumed wind speed of 140 or 145 km / hour (or even 180 km/hr). A wall thickness of 4.8mm would be more appropriate for a flagpole with a height of 12 meters or higher.
- The specification states that the finish (one of several specified) should be: “*Natural Satin Finish: AA-M32, fine, directional, medium satin polish; buff complying with AA-M20; seal aluminum surfaces with clear, hard-coat wax.*” There are several problems with this finish specification:
 - The specification as written is not correct for a normal “Natural Satin Finish” which is the standard finish for aluminum flagpoles in the flagpole industry. AA-M32 and AA-M20 are both Aluminum Association Finish designations, which are two different and mutually exclusive designations. Both of these are intended more for small scale products like hand rails and not large products like a flagpole, and are polished to a much higher degree than would be practical for a flagpole. AA-M33 is what we see as the standard for flag shafts and light poles. AA-M33 allows for an 80 grit finish and is accomplished by belt polishing.

- Regarding sealing with a clear hard coat wax, this again is a process intended more for products like hand rails and signage, not products like flag shafts and would serve no purpose on a product such as a flag shaft that is used in an exterior environment where the wax would degrade quickly or have to be reapplied at regular intervals to maintain a seal. Sealing with any type of wax is not something we recommend, nor offer and frankly don't know why anyone would want it on something like a flagpole. We know of no flagpole manufacturers in the U.S. or Europe that recommend sealing a flagpole with a hard coat wax.
- We very often see specifications that require a *“Winch System: Manually operated winch with control stop device and removable handle, stainless-steel cable halyard”* for small flagpoles. While all of our flagpoles taller than 12m do come standard with a manually operated winch system (with a break / stop device and removable handle) and aircraft grade stainless steel wire rope, we do not generally recommend this for smaller poles (12m and shorter). While it may be feasible to put a winch and stainless-steel cable halyard on these smaller flagpoles, it definitely is not necessary or recommended due to the size and weight of the flag. It is much more economical and practical to use a standard polypropylene halyard with a jam cleat (still a high quality, internal halyard system). We generally recommend this standard polypropylene halyard with a jam cleat on our Prestige Flagpoles™ 12m and shorter, since the low weight of the flag on smaller poles actually makes it difficult to get the wire rope to spool properly on the winch.

So, while those are not all the problems we have seen with the various specification packages we have received, these certainly cover some of the highlights. And while a specification package is generally a good thing so that the customer or client can be sure he is getting what he wants and can evaluate all offerors as to the same standard, when the specification package is incorrect, or it provides erroneous or conflicting information, or it provides unneeded options, it does more harm than good.

To assist our current and future clients, end-users, consultants, engineers, and general contractors within our primary market of the UAE and Middle East, we are pleased to provide a number of sample architectural specification packages for various flagpole sizes and models, which eliminate the various problems we have outlined above and require very little modification. We have provided these as a general courtesy, and they are posted and are available for download on our website, as pdf files: <http://trident-support.com/support/> . If you need these in an editable MS word / doc file format, or have any questions, comments, or need any other flagpole assistance, please feel free to contact our technical sales team at the numbers or email shown above.