

**A BRIEF GUIDE TO INTERNET RESOURCES FOR COATINGS-RELATED
REGULATIONS AND ASSOCIATED-COATINGS INFORMATION**

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Abstract: The Internet is a ready source of current information relevant to the coatings industry. Hundreds of World Wide Web sites on the Internet have information on regulations and other coatings-related topics. The objectives of this paper are to introduce inexperienced Internet users to the kinds of regulatory and other coatings-related information available on the Internet and to provide some key Web sites that are useful in initiating searches and obtaining information.

INTRODUCTION

The Internet provides access to a great volume of diverse information from around the world. The information resides on computers and can be easily accessed and is frequently updated. For example, information is updated daily at many United States (U.S.) Government sites. Internet tools range from the relatively simple data transfer capabilities such as Gopher and FTP (file transfer protocol) to browsers for the World Wide Web (hereafter called the Web). It is through the Web that data, still images, sounds, movies, and automatic "links" to other sites are available. Increasingly, information previously available on "Gopher" sites is being made available through the Web because of the advantages multi-media brings to presenting information. Because, the number of Web sites and the extent of information on the Web is growing rapidly, the Web is the focus of this paper.

As most users have discovered, the Web can, at times, provide quick, easy access to desired information by using one of the search capabilities, often called a "browser." However, use of the Web can also be frustrating. Frustration may be caused by the need to navigate through multiple layers of menus at a Web site, slow transfer of information, technical glitches, or the inability to find the desired information. To help reduce the frustration and provide new users with a way of quickly gaining experience using the Web, "addresses" (i.e., URLs or Uniform Resource Locators) of a sample of Web sites having regulatory, technical and other coatings-

related information are given in this paper. Other sources of relevant addresses include the Web site of the Steel Structures Painting Council (SSPC) and The Journal of Protective Coatings and Linings' (JPCL) new column on the Internet.

FEDERAL AND STATE SITES

Most U.S. Federal departments, administrations, laboratories and agencies have Web sites. Often the sites have links to others government sites. A good site linking many of the U.S. government Web sites is provided by a service of the U.S. Congress through its Library, <http://rs9.loc.gov/home/thomas.html>.¹ Government sites with regulatory and other information relevant to the coatings industry are described in more detail below and are summarized in Table 1.

A primary source of federal regulatory and legislative documents is the Government Printing Office (GPO) site (<http://www.access.gpo.gov>). Because this site is multi-layered, it is often easier to go directly to the sub-site that has the information desired. For example, at http://www.access.gpo.gov:80/su_docs/aces/aaces002.html, one can connect to the GPO online-searchable databases. These databases include the Federal Register, the United States Code, Congressional Bills, the Congressional Directory, and the Congressional Record. So-called "advanced searches" are available for the Federal Register (http://www.access.gpo.gov:80/su_docs/aces/aces140.html) and the Congressional Record. The advanced-search page provides menu-driven (i.e., fill-in-the-blanks) options to help specialize the search. Useful hints are provided on the site to help make the search process more efficient. By properly tailoring the search

¹The readers should be aware that the Web-site addresses referenced in this paper reflect active sites at the time of this writing. Future changes to Web-sites addresses may result in failed attempts to access the sites. The user should be aware that, in some cases, URL addresses are case sensitive.

terms, the number of documents found during a search is greatly reduced, making it much faster to review the list of documents obtained from the search. For example, suppose a copy of the June 1996 proposed rule to regulate limits on the volatile organic-compound (VOC) contents of architectural and industrial maintenance (AIM) coatings is wanted. A July 1996 search of the 1996 Federal Register Data Base using the search terms "environmental protection agency" AND "volatile organic compound" returned 116 entries. Adding the term "paint" to the list (i.e., ... AND paint) reduced the number of entries to 6. However, by using one of the 10 search fields in the Federal Register Data Base, namely "proposed," and requiring that "volatile organic compound" be found in the field (which for this field is the title of a proposed rule), the number of entries was reduced to one, namely the June 25, 1996 proposed VOC/AIM rule. (The complete search term used was: proposed = "volatile organic compound" AND "environmental protection agency" AND paint.)

The GPO site also lists separately the Table of Contents of the current issue of the Federal Register at http://www.access.gpo.gov:80/su_docs/aces/fr-cont001.shtml. The tables of contents of the current as well as previous (from 1994) issues of the Federal Register can be found at <http://gopher.nara.gov:70/1/register>. A table of contents can be reviewed quickly to determine if a notice, rule, etc. has been published.

Documents available at the GPO sites are generally formatted in ASCII text files or portable document files (pdf). A special reader is needed to download pdf files. Such a reader can be downloaded from <http://www.adobe.com>. By downloading a Federal Register pdf file, the screen duplicates the appearance of the printed version of the document. That is, tables, and sizes and types of heading fonts are the same as those in the printed version. This is in contrast to the ASCII version in which table formatting and font characteristics are not displayed. Also, using a properly configured printer, a printed pdf file duplicates the appearance of the printed Federal Register document.

The Code of U.S. Regulations is available at <http://law.house.gov/cfr.htm>. Full text regulations can be obtained using the searchable data base. This data base contains all the documents printed in the 50-plus volume set.

The current issue of the Commerce Business Daily (CBD) can be found at <http://www.ld.com>. It is searchable by type of notice or in total. Subscriptions to

back issues of the CBD are available at several commercial sites, which can be found using one of the Web search tools.

Environmental information abounds on the Web and was recently summarized (1). The site of the U.S. Environmental Protection Agency (<http://www.epa.gov>) has been described as "One of the more valuable sites on the Internet for the Environmental Professional" (1). It contains data archives, software, regulations, EPA Federal Register documents, publications and other general information. The site also has links to Web sites at the various EPA offices, regions, and laboratories.

The U.S. Department of Labor Occupational Safety and Health Administration (OSHA), Salt Lake Technical Center, has an easy to use site (<http://www.osha-slc.gov>) that contains OSHA standards and other OSHA-related documents, including regulations, manuals, test methods, Federal Register documents, and directives. The site is updated frequently. For example, the complete text of the directive, CPL 2.105, "Special Emphasis Program for Lead in Construction," described in "Compliance" is available (2) at this site. The Salt Lake Technical Center site is linked to the National OSHA Web site. The Web site of the National Institute for Occupational Safety and Health (NIOSH) is extensive and its contents include NIOSH publications, information on respirators, a directory and database information. Its address is <http://www.cdc.gov:80/niosh/homepage.html>.

States are increasingly making environmental and other regulatory information available on the Web (1). The site of the National Conference of State Legislatures (<http://www.ncsl.org>) has links to all state sites, providing easy, direct navigation to any state site. State codes, regulations, pending legislation, and directories are available.

COATINGS STANDARDS

The Department of Defense has constructed a data base of DODISS (Department of Defense Index of Specifications and Standards) information. Standards and specifications can be searched at the site and electronic orders can also be placed. The address is <http://www.dtic.mil:90/dps-phil/dodiss/index.html>. This site provides a means of quickly determining the status of, and obtaining, current government standards.

Many standards associations also have Web sites. Examples are listed in Table 2. Because many of the sites

are new or changing rapidly, a visit to the site to determine what is available is recommended. SSPC, for example, provides information on SSPC standards as well as other publications, meetings and chapter activities. The American Society for Testing and Materials (ASTM) site includes a data base of all ASTM standards that can be searched by keywords, titles, and letter/number designation.

INDUSTRY ASSOCIATIONS

Several industry associations have developed Web sites within the past year, including SSPC, the National Association of Corrosion Engineers (NACE), the National Paint and Coating Association (NPCA), and Painting and Decorating Contractors of America (PDCA). As for most other sites, the type and amount of information provided on these sites is increasing rapidly. Site addresses for a sample of associations are also included in Table 2.

EXAMPLES OF OTHER INDUSTRIAL COATING-RELATED SITES

Information useful in preparing material safety data sheets (MSDS), as well as completed MSDS, abounds on the Web. The National Oceanographic and Atmospheric Administration (NOAA), Northwest Fisheries Science Center's site is <http://research.nwfsc.noaa.gov:80/msds.html>. It provides links to publicly accessible MSDS information, as well as a searchable local database of chemical names linked to the MSDS pages hosted on Gopher servers at the University of Utah and Oregon State University.

Many research laboratories and publishers of technical documents have Web sites. Searches listing "research," "paint or coatings," and "laboratory" led to several sites as shown in Table 3. Some additional sites obtained through other searches are also shown in Table 3. Searches for books, publishers, journals related to coatings also led to several sites and some are listed in Table 3.

In addition, several coatings manufacturers, consultants, contractors and equipment manufacturers have Web sites featuring product data, general use information and the like. They can be found by either carrying out a general search or sometimes by guessing that the site address is the name of the company with a "com" extension.

CONCLUSIONS

As described, there is a wealth of useful coatings-related information on the World Wide Web. The Web provides a framework for storing and navigating through multi-media data and a means of easily sharing information in a timely manner. Much of the Federal governmental information (regulations, proposed regulations, directives, methods, etc.) is updated daily. There seems to be little doubt that the Web will grow in importance as an information source and as a way of presenting and sharing new information, including large data bases. This paper provided examples of sites relevant to the coating industry, with an emphasis on sites containing regulatory information, as a way of introducing users to the Web. Because the Web is dynamic, with many new sites being added daily, the list of relevant sites is continuously changing. Sites, such as the SSPC home page, are helpful in keeping users aware of where to find relevant information to the coatings industry.

REFERENCES

- (1) "Environment on-line, A guide to the Internet Resources: Environmental Science and Technology, Feb 1996, p 22.
- (2) "Compliance, Environmental, Health and Safety News from SSPC," SSPC, Pittsburgh, PA, Number 3, 1996

**Table 1. Government World Wide Web Sites Having
Coatings-Related Regulatory and Associated Information**

| Site Address (URL) | Description |
|---|--|
| http://rs9.loc.gov/home/thomas.html | Includes links to Federal Government sources |
| http://www.access.gpo.gov | GPO home page |
| http://www.access.gpo.gov:80/su_docs/aces/aaces002.html | GPO on-line data bases, including Federal Register and U.S. Code |
| http://www.access.gpo.gov:80/su_docs/aces/aces140.html | Advanced-search page for Federal Register |
| http://www.access.gpo.gov:80/su_docs/aces/fr-cont001.shtml | Table of Contents of Current Issue of Federal Register |
| http://www.adobe.com | Source for reader for "pdf" files |
| http://law.house.gov/cfr.htm | Code of Federal Regulations |
| http://www.ld.com | Current issue of Commerce Business Daily |
| http://www.osha-slc.gov | OSHA, Salt Lake City Technical Center |
| http://www.epa.gov | EPA home page |
| http://www.cdc.gov:80/niosh/homepage.html | NIOSH home page |
| http://www.ncsl.org | National Conference of State Legislatures |
| http://research.nwfsc.noaa.gov:80/msds.html | Data-base search for MSDS and links to sites having MSDS information |

**Table 2. World Wide Web Sites of Standards
Writing Bodies and/or Industry Associations**

| Site Address (URL) | Description |
|---|---|
| http://www.dtic.mil:90/dps-phila/dodiss/index.html | Department of Defense Index of Specifications and Standards |
| http://www.sspc.org | Steel Structures Painting Council |
| http://www.astm.org | American Society for Testing Materials |
| http://www.iso.ch | International Standards Organization |
| http://www.nace.org | National Association of Corrosion Engineers |
| http://www.ansi.org | American National Standards Institute |
| http://www.npca.com | National Paint and Coatings Association |
| http://noi.noli.com:80/pdca | Painting and Decorating Contractors of America |

**Table 3. World Wide Web Sites of Research
Laboratories, Publishers, and Related Sites**

| Site Address (URL) | Description |
|---|---|
| http://research.nwfsc.noaa.gov:80/msds.html | Links to MSDS information |
| http://titan.cbt.nist.gov | National Institute of Standards and Technology, High Performance Construction Materials |
| http://www.birl.nwu.edu | Northwestern University's Industrial Research Laboratory |
| http://www.ndsu.nodak.edu:80/~nupoly/poly_coat/poly_coa.htm | North Dakota State University, Department of Polymers and Coatings |
| http://www.umr.edu:80/~coatings | University Of Missouri, Rolla, Coatings Institute |
| http://doll.eng.sunysb.edu:80/thermalspray1.html | Thermal spray lab at University of New York, Stony Brook |
| http://www.anachem.umu.se:80/jumpstation.htm | Analytical chemistry springboard |
| http://www.pra.org.uk | Site of the Paint Research Association in the UK |
| http://www.cecar.army.mil:80/homepage.html | U.S. Army Construction Engineering Research Laboratory |
| http://chpc06.ch.unito.it:80/electrochemistry.html | Links to electrochemistry sites on the Web |
| http://www.cais.com:80/nsc/ehc/lead.html | National Lead Information Center (several documents on-line) |
| http://www.sme.org:80/pubs/finish.html | Society of Manufacturing Engineering, list of related publications |