from SCRAP TO PROFIT

Strategies for Marketing Tire-Derived Products

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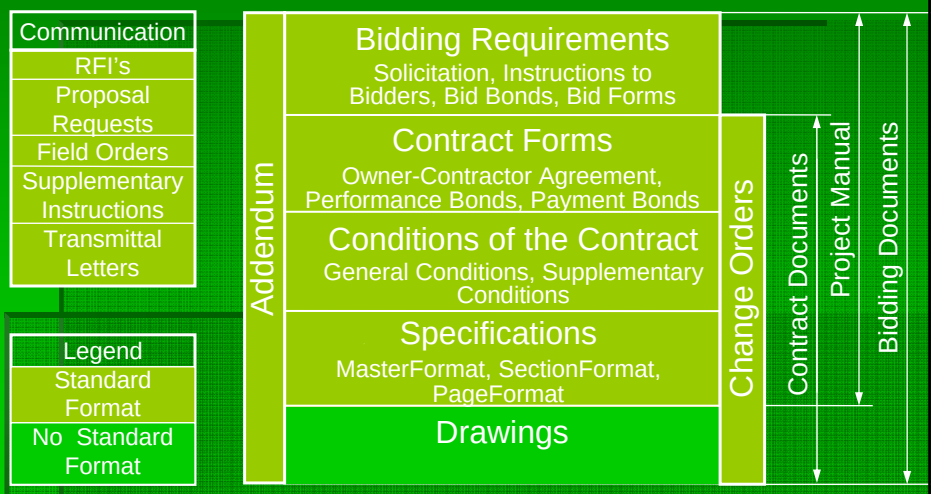
May 7, 2008

Project Documents

- ARCHITECTS PRODUCE 2 DOCUMENTS FOR CONSTRUCTION OF A BUILDING:
  - DRAWINGS; AND
  - SPECIFICATIONS

Standard Formats for Construction- Related Documents



Drawings

- Graphic and textual information organized on a 2-dimensional surface for the purpose of conveying data about a specific portion of a project.
- Convey design intent and may show multiple views, either of the whole project or of its parts.

Drawings

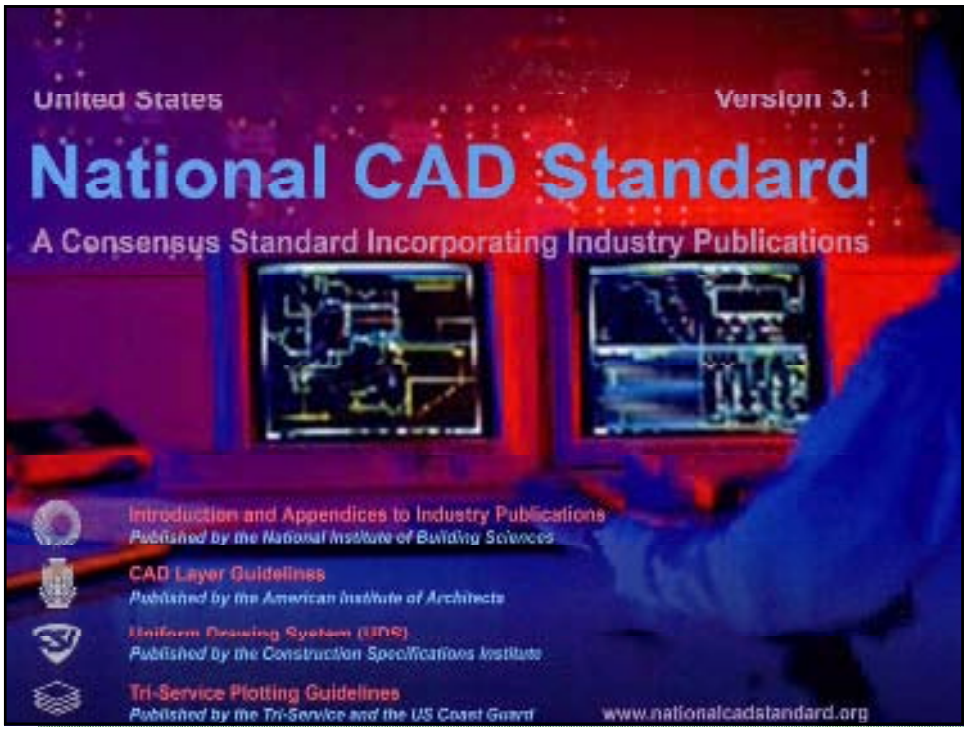
- Indicate relationships between elements and may show the following for each material, assembly, component, and accessory:
  - Location
  - Identification
  - Dimension and size
  - Details and diagrams of connections
  - Shape and form

DRAWINGS - NCS

- Format used for drawings is the NATIONAL CAD STANDARD (NCS) as developed by:
  - NATIONAL INSTITUTE OF BUILDING SCIENCES (NIBS)
  - THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI)
  - THE AMERICAN INSTITUTE OF ARCHITECTS (AIA)
  - UNITED STATES COAST GUARD
  - TRI-SERVICE CAD/GIS TECHNOLOGY CENTER (ARMY, NAVY AND AIR FORCE)

NIBS

- NATIONAL INSTITUTE OF BUILDING SCIENCES (NIBS)
  - Introduction and Amendments to Industry Publications
- THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI)
  - Uniform Drawing System
  - Drawing Set Organization
  - Sheet Organization
  - Schedules
  - Drafting Conventions
  - Terms and Abbreviations
  - Symbols
  - Notations
  - Code Conventions



Subsets

Following the cover sheet, sheets should be organized into subsets in the order illustrated in Figure 01.1. All of the subsets may not apply, or more specific additional categories may be required depending on the size, scope, and complexity of the project.

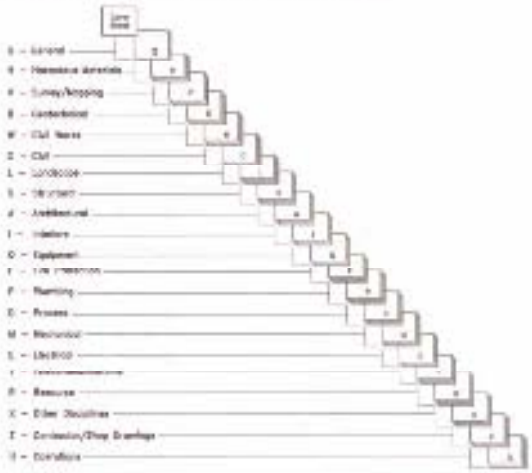


Figure 01.1 Illustration of a typical drawing set

This numbering system allows drawings to be numbered during early stages of the project or as late as construction record drawings, while providing for a consistent location throughout the drawing set and project cycle.

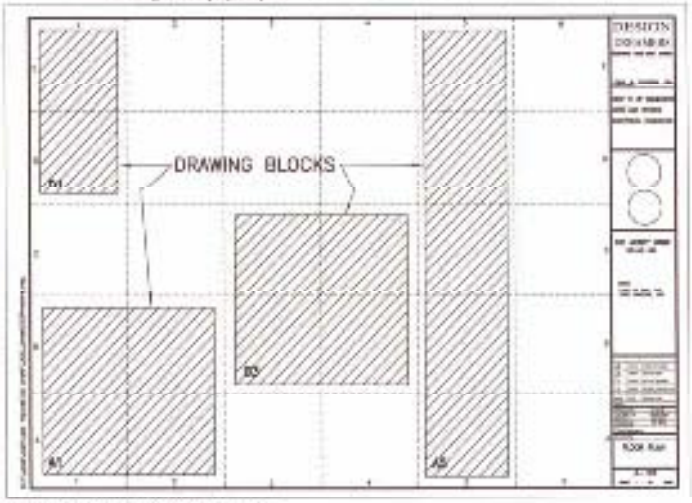
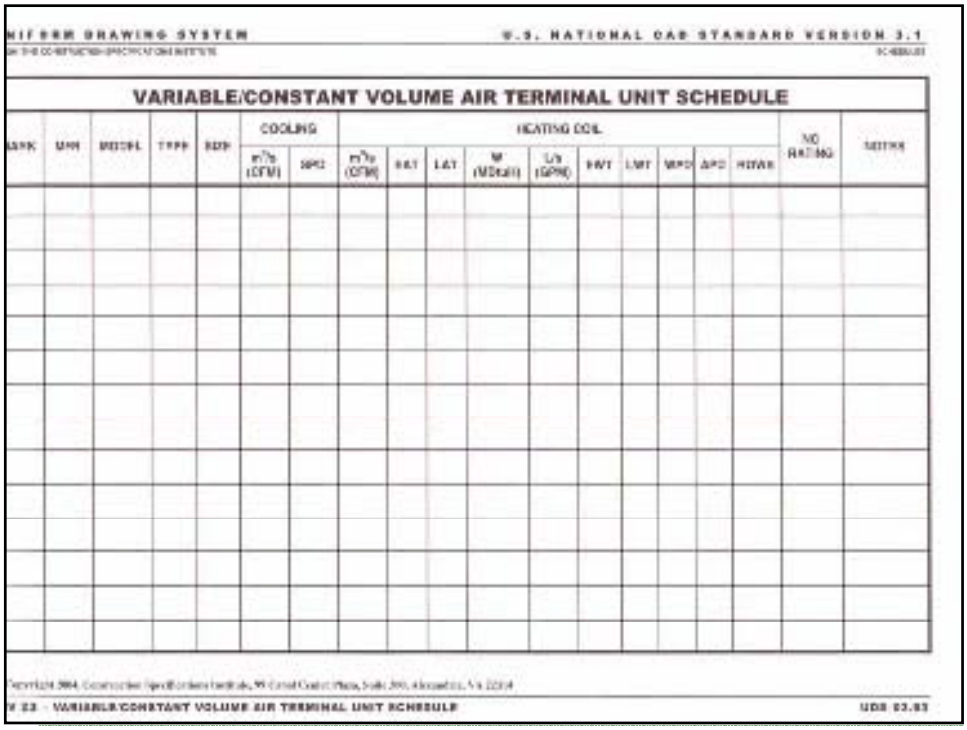


Figure 02.2 Drawing area subdivide system



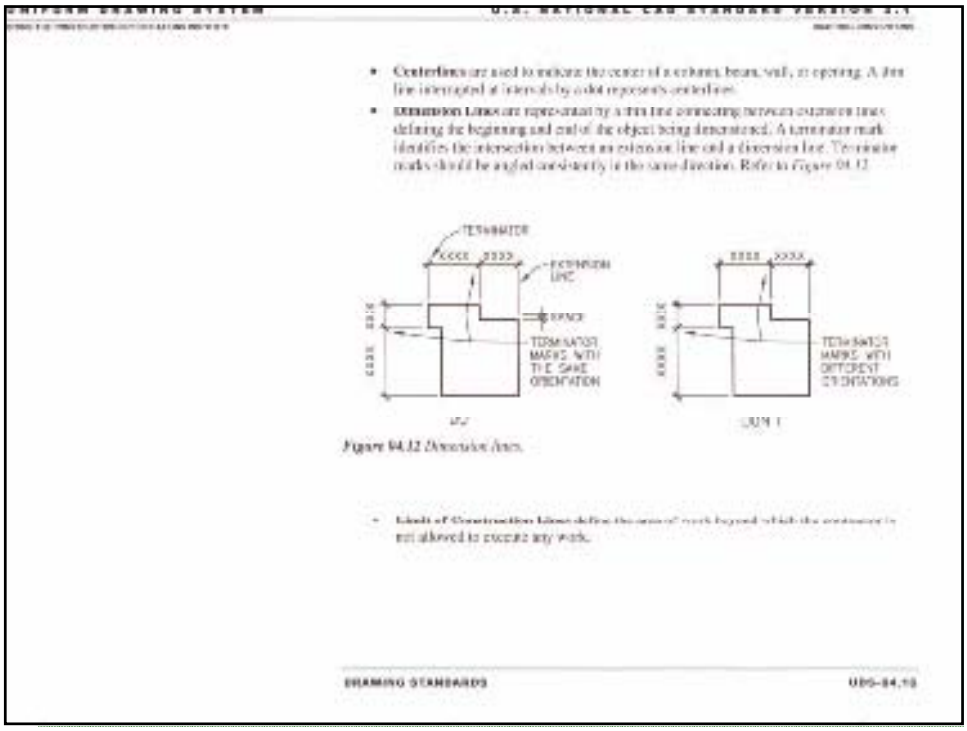
UNIFORM DRAWING SYSTEM — U.S. NATIONAL CAD STANDARD VERSION 3.1

VARIABLE/CONSTANT VOLUME AIR TERMINAL UNIT SCHEDULE

MARK	MFR	MODEL	TYPE	SIZE	COOLING		HEATING COIL										NO RATING	NOTES
					m³/s (CFM)	SPD	m³/s (CFM)	EAT	LAT	W (MBtu/h)	L/s (GPM)	EWT	LWT	WPD	APD	HDWR		

Copyright 2004, Construction Specifications Institute, 99 Canal Center Plaza, Suite 300, Alexandria, VA 22314

V 23 - VARIABLE/CONSTANT VOLUME AIR TERMINAL UNIT SCHEDULE — UDS 03.03



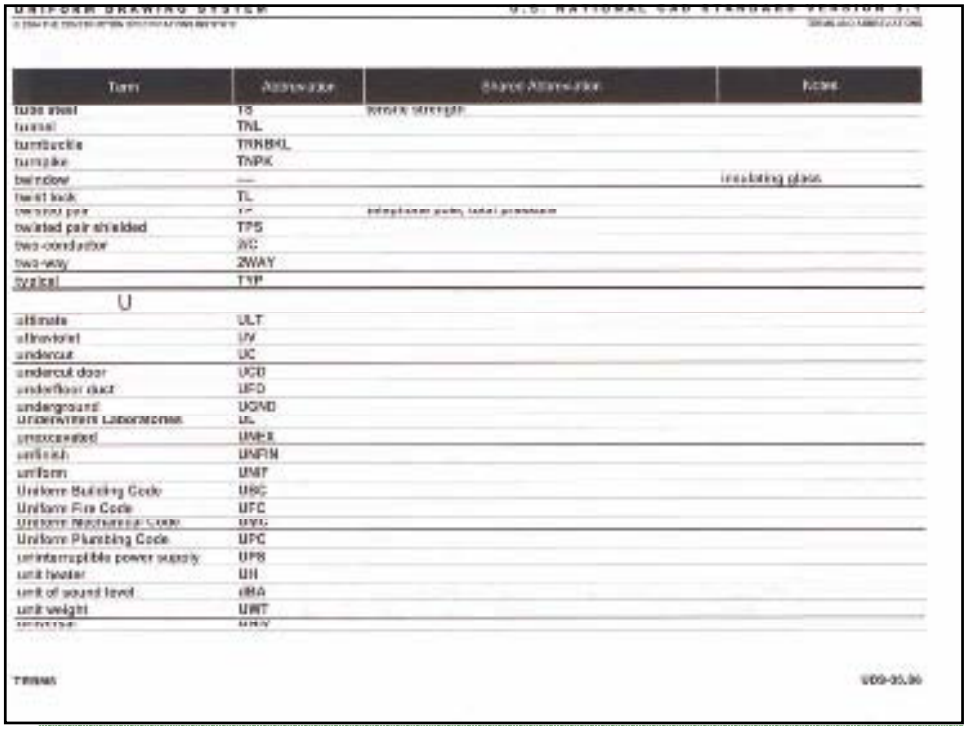
UNIFORM DRAWING SYSTEM — U.S. NATIONAL CAD STANDARD VERSION 3.1

- **Centerlines** are used to indicate the center of a column, beam, wall, or opening. A thin line interrupted at intervals by a dot represents centerlines.
- **Dimension Lines** are represented by a thin line connecting between extension lines defining the beginning and end of the object being dimensioned. A terminator mark identifies the intersection between an extension line and a dimension line. Terminator marks should be angled consistently in the same direction. Refer to *Figure 04.12*.

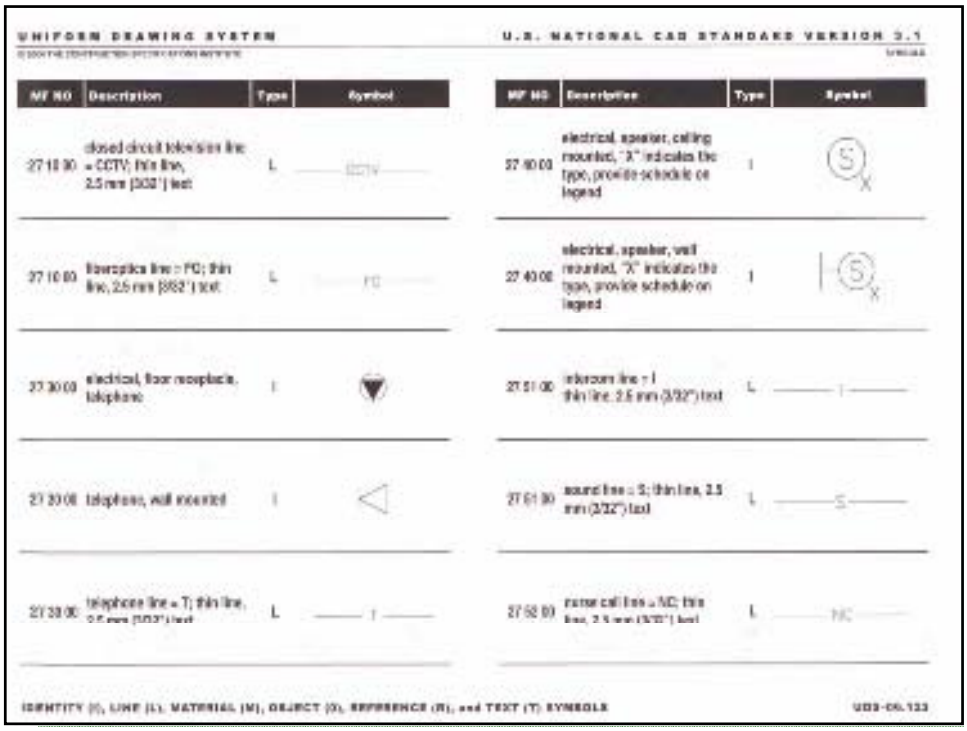
Figure 04.12 Dimension lines.

- **Limit of Construction Lines** define the area of work beyond which the contractor is not allowed to execute any work.

DRAWING STANDARDS — UDS-04.10



Term	Abbreviation	Shared Abbreviation	Notes
tube steel	TS	tensile strength	
tunnel	TNL		
turnbuckle	TRNBKL		
turnpike	TNPK		
twindow	—		insulating glass
twist lock	TL		
twisted pair	TP	telephone pole, total pressure	
twisted pair shielded	TPS		
two-conductor	2C		
two-way	2WAY		
typical	TYP		
U			
ultimate	ULT		
ultraviolet	UV		
undercut	UC		
undercut door	UCD		
underfloor duct	UFD		
underground	UGND		
Underwriters Laboratories	UL		
unexcavated	UNEX		
unfinish	UNFIN		
uniform	UNIF		
Uniform Building Code	UBC		
Uniform Fire Code	UFC		
Uniform Mechanical Code	UMC		
Uniform Plumbing Code	UPC		
uninterruptible power supply	UPS		
unit heater	UH		
unit of sound level	dBA		
unit weight	UWT		
[illegible]	[illegible]		



MF NO	Description	Type	Symbol
27 10 00	closed circuit television line = CCTV; thin line, 2.5 mm (3/32") text	L	CCTV
27 10 00	fiberoptics line = FC; thin line, 2.5 mm (3/32") text	L	FC
27 30 00	electrical, floor receptacle, telephone	I	▼
27 30 00	telephone, wall mounted	I	◁
27 30 00	telephone line = T; thin line, 2.5 mm (3/32") text	L	T

MF NO	Description	Type	Symbol
27 40 00	electrical, speaker, ceiling mounted, "X" indicates the type, provide schedule on legend	I	S X
27 40 00	electrical, speaker, wall mounted, "X" indicates the type, provide schedule on legend	I	S X
27 51 00	intercom line = I thin line, 2.5 mm (3/32") text	L	I
27 51 00	sound line = S; thin line, 2.5 mm (3/32") text	L	S
27 52 00	nurse call line = NC; thin line, 2.5 mm (3/32") text	L	NC

UNIFORM DRAWING SYSTEM U.S. NATIONAL CAD STANDARD VERSION 3.1

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General [Discipline] Notes

General [Discipline] Notes: *Notes that apply only to a particular design discipline. Users should provide a heading for these notes by replacing the [discipline] place holder with the name of the particular design discipline as in the following examples:*

General Architectural Notes
General Structural Notes
General Mechanical Notes
General Interior Design Notes

General [discipline] notes appear on the first or B-Series sheets within a particular design discipline and apply to all subsequent sheets within that discipline. For example, general civil notes appear on sheet C-001 and apply to all civil sheets within the drawing set.

Because general [discipline] notes apply to drawings of the discipline, they should not be repeated on other sheets within the discipline. These notes typically provide instruction concerning discipline-specific drafting conventions or other use of that discipline's drawings. General [discipline] notes do not replicate general notes. Coordination is necessary to ensure general [discipline] notes are coordinated with the project information, project requirements, and drafting conventions established within the general notes and may be presented in more detail elsewhere within the drawings or specifications. Refer to *Figures 07.1* and *07.2*.

Example: TOP OF STEEL ELEVATIONS INDICATED ARE BASED ON A FINISH FLOOR ELEVATION OF [illegible]—SEE SHEET C-101 FOR ACTUAL SETUP AND BENCHMARK INFORMATION

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Category Group	Regulatory Information	Drawing Location: Level 1 Project	Drawing Location: Level 2 Project	Suggested Format
	See Appendix A – Summary of Governing Regulations	G-0xx	GI-0xx	Text
	Listing of applicable codes (titles and edition)	G-0xx	GI-0xx	Text
	Accessibility	G-0xx	GI-0xx	Text
	Building	G-0xx	GI-0xx	Text
	Electrical	G-0xx	GI-0xx	Text
	Energy conservation	G-0xx	GI-0xx	Text
	Fire	G-0xx	GI-0xx	Text
	Fuel/gas	G-0xx	GI-0xx	Text
	Mechanical	G-0xx	GI-0xx	Text
	[illegible]	G-0xx	GI-0xx	Text
	Private sewage disposal	G-0xx	GI-0xx	Text
	Property maintenance	G-0xx	GI-0xx	Text
	Residential	G-0xx	GI-0xx	Text
	Zoning	G-0xx	GI-0xx	Text
	Other	G-0xx	GI-0xx	Text
	Listing of applicable local ordinances and jurisdictions	G-0xx	GI-0xx	Text
	Local amendments	G-0xx	GI-0xx	Text
	Zoning	G-0xx	GI-0xx	Text
	Signage	G-0xx	GI-0xx	Text
	Other	G-0xx	GI-0xx	Text

AIA | THE AMERICAN INSTITUTE OF ARCHITECTS

AIA

- THE AMERICAN INSTITUTE OF ARCHITECTS (AIA)
  - CAD Layer Guidelines
  - UNITED STATES COAST GUARD
  - TRI-SERVICE CAD/GIS TECHNOLOGY CENTER (ARMY, NAVY AND AIR FORCE)
  - Plotting Guidelines

U.S. NATIONAL CAD STANDARD FOR ARCHITECTURE, ENGINEERING, & CONSTRUCTION (AIS/C) VERSION 3.1

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Telecommunications Layer List

Telecommunications Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Telecommunications Discipline Designators

Designator	Description	New
T	Telecommunications	
TA	Audio Visual	
TC	Clock and Program	
TI	Intercom	
TM	Monitoring	
TN	Data Networks	
TT	Telephone	
TY	Security	
TJ	User-Defined	
TK	User-Defined	

Telecommunications Layer List

Layer Name	Description	New
TD-[illegible]-[illegible]	Any major group: one-line diagrams	
TD-[illegible]	Any major group: diagrams	
TD-[illegible]-EQPM	Any major group: equipment	
TD-[illegible]-JACK	Any major group: jacks	
TD-[illegible]-JBOX	Any major group: junction boxes	

Layer Name	Description	New
TD-[illegible]-RISR	Any major group: riser diagrams	
TD-[illegible]	Alarm system	
TD-BELL	Bell system	
TD-CABL	Cable systems	
TD-CABL-COAX	Cable systems: coax cable	

TELECOMMUNICATIONS LAYER LIST CLG-77

U.S. NATIONAL CAD STANDARD FOR ARCHITECTURE, ENGINEERING, & CONSTRUCTION (A/E/C) VERSION 3.1

NCS Color #	Pen Plotter pen mm	Laser/Elec InkJet in.	Plot Color	MicroStation Color #	MicroStation line weight	AutoCAD Color #
1	0.18	0.007	Black	3	0	1
2	0.25	0.010	Black	4	1	2
3	0.35	0.014	Black	2	2	3
4	0.35	0.014	Black	7	2	4
5	[illegible]	[illegible]	Black	[illegible]	[illegible]	5
6	1.00	0.039	Black	5	7	6
7	1.40	0.055	Black	0	10	7
8	0.35	0.014	Halftone	9	2	8
9	2.00	0.079	Black	14	15	9
10	0.18	0.007	Black	10	0	10
11	[illegible]	[illegible]	Black	46	[illegible]	11
12	0.35	0.014	Black	27	2	12
13	0.50	0.020	Black	35	3	13
14	0.70	0.028	Black	43	5	14
15	1.00	0.039	Black	51	7	15
16	1.40	0.055	Black	59	10	16
17	[illegible]	[illegible]	Halftone	67	[illegible]	17
18	0.35	0.014	Halftone	75	2	18
19	2.00	0.079	Black	83	15	19
20	0.18	0.007	Rust	6	0	20
21	0.25	0.010	Rust	30	1	21
22	0.35	0.014	Rust	22	2	22
23	0.50	0.020	Rust	49	3	23
24	0.70	0.028	Rust	38	5	24
25	1.00	0.039	Rust	62	7	25
26	1.40	0.055	Rust	54	10	26
27	0.70	0.028	Rust	78	5	27
28	0.35	0.014	Rust	70	2	28
29	2.00	0.079	Rust	94	15	29
30	0.18	0.007	Black	86	0	30
31	0.25	0.010	Black	110	1	31
32	0.35	0.014	Black	102	2	32

INTRODUCTION TO PLOTTING GUIDELINES Page 3

Knowledge for Creating & Sustaining the Built Environment
CSI*Net* - Home of The Construction Specifications Institute

SPECIFICATIONS

- Define requirements for products, materials, and workmanship;
- Describe requirements for administration;
- Define performance of the project;
- Are written for each subject; and
- Are organized by divisions and sections under MasterFormat.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements: Provide wall surface protection system components that are identical to those tested in accordance with CBC Section 802 and ASTM E84 for the fire performance characteristics indicated below. Identify wall surface protection system components with appropriate markings from the testing and inspection organization.
   1. Flame Spread: 25 or less.
   2. Smoke Developed: 450 or less.

B. Impact Strength: Provide wall surface protection system components with a minimum impact resistance of 25.4 ft. x lb/sq. ft. when tested in accordance with ASTM D256 (Izod impact, ft. x lb/in.).

1.5 MAINTENANCE

A. Maintenance Instructions: Provide the manufacturer's instructions for maintenance of installed work. Include recommended methods and frequency for maintaining optimum condition under anticipated traffic and use conditions. Include precautions against cleaning materials and methods that may be detrimental to finishes and performance.

B. Extra Materials: After completion of work, deliver not less than 2 percent of each type, color, and pattern of wall surface protection materials and components. Include accessory components as required. Replacement materials shall be from the same production run as materials installed. Package replacement materials with protective covering, identified with appropriate labels.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Balco, "CGS-3"; Acrovyn; IPC, or equal.

2.2 MATERIALS

A. Rigid Plastic Material: Extruded, textured, chemical and stain-resistant, high-impact, acrylic modified vinyl plastic, thickness as indicated. Comply with specified requirements of ASTM D256 for impact resistance and ASTM E84 for flame spread and smoke developed characteristics.
   1. Colors and Textures of Plastic Material: Provide extruded plastic material that matches selections made by the Architect from the manufacturer's full range of standard colors and textures.

HOW TO GET SPECIFIED

- LITERATURE
- WEBSITE
- ADVERTISING
- PRESENTATIONS
- EXHIBIT PRODUCTS AT CONVENTIONS
- LIST IN MASTER GUIDE SPECIFICATIONS
- GREENFORMAT

LITERATURE

- CLEAR
- CONCISE
- PICTURES
- DETAILS
- GUIDE SPECIFICATION
- PLACE NAME ON EACH PAGE

WEBSITE

- QUICK TO OPEN
- NO IDENTIFICATION REQUIRED TO ENTER SITE
- EASY TO NAVIGATE
- PICTURES
- INCLUDE TECHNICAL INFORMATION
- DOWNLOADABLE DETAILS
- DOWNLOADABLE GUIDE SPECIFICATIONS
- NAME ON EVERY WINDOW

ADVERTISING

- YELLOW PAGES
- GOOGLE
- CATALOGS OF MATERIALS
  - www.sweets.com
  - www.arcat.com
  - www. 4specs.com

PRESENTATIONS

- PERSON-TO-PERSON PRESENTATIONS
- LUNCH PRESENTATIONS AT OFFICES
- EXHIBIT PRODUCTS AT CONVENTIONS
  - CSU/ITC INTERNATIONAL TIRE CONFERENCE May 5 - 9, 2008, San Diego, CA
  - CSI: CONSTRUCT 2008 & THE CSI ANNUAL CONVENTION June 4 - 6, 2008, Las Vegas, NV

PRESENTATIONS - CONVENTIONS

- AIA: AIA NATIONAL CONVENTION May 15 -17, 2008, Boston, MA
- USGBC: Greenbuild International Conference and Expo Nov 19 - 21, 2008, Boston, MA
- ECOBUILD AMERICA: Ecobuild American and AEC-ST May 19 - 22, 2008, Anaheim, CA
- Ecobuild Fall and AEC-ST Dec 8 -11, 2008, Washington, DC

LIST OF MASTER GUIDE SPECIFICATIONS

- MasterSpec
  - www.arcomnet.com
- SpecText
  - www.spectext.com
- Speclink
  - www.bsdsoftlink.com/
- Specs Intact
  - www. specsintact.ksc.nasa.gov/index.asp

- GREENFORMAT

Thank you

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