

AutoCAD Design Center

Class 9: Database Resource Management

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Introduction to AutoCAD Design Center

 **What is Design Center?** The Design Center (formerly AutoCAD DesignCenter or ADC) is a powerful palette that provides centralized access to drawing content. It functions as a resource manager, allowing you to browse, find, preview, and insert content from drawings, including blocks, layers, layouts, text styles, dimension styles, and more.

> Command Access:

- **Command:** `ADCENTER` or `ADC` or `DC`
- **Keyboard Shortcut:** `Ctrl+2`
- **Ribbon:** View Tab → Palettes Panel → Design Center
- **Classic Menu:** Tools → Design Center
- **Command Line:** `ADCCLOSE` (to close)

★ Key Benefits:

- **Resource Sharing:** Share content between drawings without opening them
- **Standardization:** Maintain consistent standards across projects
- **Time Efficiency:** Eliminate redundant creation of common elements
- **Library Management:** Create and organize resource libraries
- **Preview Capability:** Visual preview before insertion
- **Batch Operations:** Insert multiple items simultaneously

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Design Center Interface Components

Main Interface Elements:

- **Tree View (Left Panel):**
 - Navigate folders and drawing files
 - Expand drawings to see content categories

Main Interface Elements:

- **Tree View (Left Panel) (continued):**
 - Quick access to frequently used locations
 - History of recently accessed items
- **Content Area (Right Panel):**
 - Displays available content from selected source
 - Four view modes: Large Icons, Small Icons, List, Details
 - Shows blocks, layers, linetypes, text styles, etc.
 - Right-click for context menu options
- **Preview Pane (Optional):**
 - Visual preview of selected items
 - Particularly useful for blocks and layouts
 - Toggle with preview button on toolbar
- **Description Pane (Optional):**
 - Shows detailed information about selected item
 - Displays block descriptions if available
 - File path and size information

Toolbar Functions:

- **Load:** Open Design Center content from file
- **Back/Forward:** Navigate through browsing history
- **Up:** Move up one folder level
- **Search:** Find specific content across drawings
- **Favorites:** Quick access to frequently used folders
- **Home:** Return to default location
- **Tree View Toggle:** Show/hide navigation tree
- **Preview:** Toggle preview pane
- **Description:** Toggle description pane
- **Views:** Change content display mode
- **Properties:** Quickly view and edit properties of selected items
- **Insert:** Insert blocks or content directly into the drawing

Block Operations:

Inserting Blocks from Other Drawings:

1. Navigate to source drawing in Tree View
2. Expand drawing and click “Blocks”
3. Select desired block(s) in content area
4. Use one of these methods:
 - **Drag and Drop:** Drag directly into drawing area
 - **Right-click → Insert Block:** Opens Insert dialog
 - **Double-click:** Quick insert with default settings
 - **Copy (Ctrl+C):** Copy to clipboard for paste
5. Specify insertion point, scale, and rotation

Creating Block Libraries:

- Library Drawing Setup:

- Create dedicated .dwg files for block libraries
- Organize by category (Furniture.dwg, Electrical.dwg, etc.)
- Use descriptive block names and add descriptions
- Set appropriate units and insertion points

- Block Descriptions:

- Command: `BLOCK` → Add description in dialog
- Descriptions appear in Design Center preview
- Include specifications, part numbers, standards

- Tool Palettes Integration:

- Drag blocks from Design Center to Tool Palettes
- Creates quick-access block tools
- Maintains link to source drawing

 **Pro Tip:** Create a master block library drawing with all standard blocks. Save it in a network location for team access. Use `WBLOCK` to export individual blocks when needed.

Importing Layers:

Layer Transfer Process:

1. Open Design Center (**Ctrl+2**)
2. Navigate to source drawing containing desired layers
3. Expand drawing and click “Layers”
4. Select layers to import:
 - Single: Click layer name
 - Multiple: Ctrl+Click for individual selection
 - Range: Shift+Click for continuous selection
 - All: Ctrl+A to select all layers
5. Drag selected layers to current drawing or right-click → Add Layer(s)

⌚ Layer Properties Transferred:

- **Layer Name:** Exact name preservation
- **Color:** Color index or true color settings
- **Linetype:** Associated linetype (if loaded)
- **Lineweight:** Line thickness settings
- **Plot Style:** Plot style assignments (if applicable)
- **On/Off Status:** Current visibility state
- **Freeze/Thaw:** Freeze state in viewports
- **Lock Status:** Layer lock settings
- **Plot/No Plot:** Plotting permissions
- **Description:** Layer descriptions (if defined)

⚠ Important Considerations:

- Duplicate layer names will be skipped (existing layers retained)
- Linetypes must exist in destination drawing
- Use **LAYTRANS** command for layer translation mapping
- Consider using Layer States Manager for complex scenarios

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Dimension Style Management

🔧 Importing Dimension Styles: **Process Steps:**

1. Access Design Center (ADC)
2. Browse to drawing with desired dimension styles
3. Expand drawing → Click “Dimstyles”
4. Preview available dimension styles
5. Select and transfer methods:
 - **Drag-Drop:** Direct transfer to drawing
 - **Copy-Paste:** Via clipboard
 - **Right-click → Add Dimstyle(s):** Controlled addition

Dimension Style Components Transferred:

- **Lines Settings:**
 - Dimension line color, linetype, linewidth
 - Extension line settings and offsets
 - Suppress options for lines
- **Symbols and Arrows:**
 - Arrowhead types and sizes
 - Center marks for circles
 - Arc length symbol settings
- **Text Settings:**
 - Text style, height, and color
 - Text placement and alignment
 - Vertical and horizontal justification
- **Fit Options:**
 - Scale for dimension features
 - Text and arrow fit behavior
 - Fine tuning options
- **Primary Units:**
 - Unit format and precision
 - Prefix and suffix settings
 - Zero suppression options

★ Best Practice: Create a “Standards.dwg” file containing all company dimension styles. Reference this file through Design Center for consistent dimensioning across all projects.

Working with Layouts:

Importing Layouts from Other Drawings:

1. Open Design Center (DC)
2. Navigate to source drawing
3. Expand drawing → Select “Layouts”
4. View available layouts in content area
5. Select desired layout(s)
6. Right-click → Add Layout(s) or drag to drawing
7. Layouts appear as new tabs in destination drawing

Layout Elements Transferred:

- **Page Setup:**

- Paper size and orientation
- Plot device configuration
- Plot style table (CTB/STB)
- Plot scale and plot area

- **Viewports:**

- Viewport boundaries and sizes
- Viewport scale settings
- Layer visibility per viewport
- Locked/unlocked status
- Display settings (Visual styles, shade plot)

- **Layout Objects:**

- Title blocks and borders
- Text and annotations
- Images and OLE objects
- Dimensions in paper space

Advanced Layout Techniques:

- **Template Layouts:**

- Create standard layout templates
- Include title blocks, viewports, text styles
- Save in template drawings (.dwt)
- Access via Design Center for consistency

- **Batch Layout Import:**

- Select multiple layouts with Ctrl+Click
- Import all at once for efficiency
- Rename layouts after import if needed
- Use `LAYOUTMERGE` for combining

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Managing Other Content Types

Text Styles Management:

- Navigate to “Textstyles” in source drawing
- Transfer maintains font, height, width factor, oblique angle
- Useful for maintaining standard annotation styles
- Command alternative: `STYLE` for manual creation

Linetypes Management:

- Access “Linetypes” in Design Center
- Transfer custom linetypes between drawings
- Includes pattern definition and scale
- Alternative: `LINETYPE` → Load from .lin files

Table Styles:

- Found under “Tablestyles” in Design Center
- Transfers cell formatting, borders, text styles
- Maintains data formatting rules
- Use for consistent table appearance

Multileader Styles:

- Access via “Mleaderstyles”
- Includes leader format, arrowhead, content settings
- Transfers text/block content definitions
- Essential for annotation consistency

🔍 Using Design Center Search:

Access Search: Click Search button in Design Center toolbar

Search Criteria Options:

- **Search for:** Blocks, Drawings, Layers, Layouts, etc.
- **In:** Specify search location (folder path)
- **Name:** Search by name (supports wildcards: *, ?)
- **Description:** Search in descriptions
- **Date Modified:** Filter by date range

💡 Advanced Search Techniques:

• Wildcard Usage:

- DOOR* finds all items starting with "DOOR"
- *WALL* finds items containing "WALL"
- FL??R finds "FLOOR", "FILER", etc.

• Search Results:

- Double-click to load in Design Center
- Right-click for context options
- Save search criteria for reuse

💡 Organization Strategies:

1. Folder Structure:

- Create logical folder hierarchy
- Separate by discipline/project type
- Use consistent naming conventions

2. Favorites Setup:

- Add frequently used folders to Favorites
- Right-click folder → Add to Favorites
- Access via Favorites button

3. Network Resources:

- Map network drives for team resources

3. Network Resources:

- Create shortcuts to server locations
- Ensure proper permissions

💡 Performance Optimization:

- Keep Design Center docked to save screen space
- Use Auto-hide feature when not actively using
- Close preview pane for faster browsing of large libraries
- Create desktop shortcuts to frequently used library drawings
- Use `ADCNAVIGATE` to go directly to specific paths

🛡 Common Issues & Solutions:

- **Missing Linetypes:** Load required .lin files first
- **Font Substitution:** Ensure fonts are available on system
- **Scale Issues:** Check INSUNITS variable compatibility
- **Path Problems:** Use relative paths for portability
- **Slow Performance:** Limit preview for large drawings

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Complete Command Reference

➤ Essential Design Center Commands:

- `ADCENTER` or `ADC`: Open Design Center
- `ADCCLOSE`: Close Design Center
- `ADCNAVIGATE`: Navigate to specific path
- `ADCUSTOMNAVIGATE`: Navigate with custom settings
- `CONTENTEXPLORER`: Modern content browser (newer versions)
- `CLASSICINSERT`: Classic insert dialog with preview

⌨ Related Commands:

- `TOOLPALETTES` (`Ctrl+3`): Tool palette window
- `PROPERTIES` (`Ctrl+1`): Properties palette
- `BLOCK`: Create block definitions

- **WBLOCK** : Write block to file
- **INSERT** : Insert blocks
- **XREF** : External reference manager
- **LAYER** : Layer Properties Manager
- **DIMSTYLE** : Dimension Style Manager
- **STYLE** : Text Style dialog
- **PAGESETUP** : Page Setup Manager

1. Create a “Library.dwg” file with 10 standard blocks (furniture, symbols, etc.)
2. Set up a “Standards.dwg” with company layers, dimension styles, and text styles
3. Use Design Center to transfer all layers from Standards.dwg to a new project
4. Import 3 different layouts from sample drawings using Design Center
5. Create a custom workspace with Design Center docked on the left
6. Practice searching for blocks across multiple drawings using wildcards
7. Transfer dimension styles between drawings and test their application
8. Build a favorites list with at least 5 frequently accessed folders
9. Create blocks with descriptions and verify they appear in Design Center
10. Document your standard library organization structure

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