

CAD u građevinarstvu

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Predavanja za predmet
CAD u građevinarstvu

Politehnički fakultet
Univerziteta u Zenici, 2017.



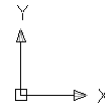
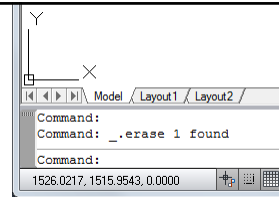
Priprema za štampu

- Prostor modela i prostor papira (Layout)
- Format papira
- Viewport
- Sastavnica i mjerilo
- Štampanje



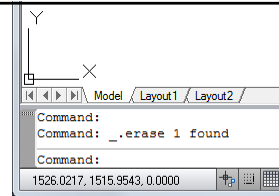
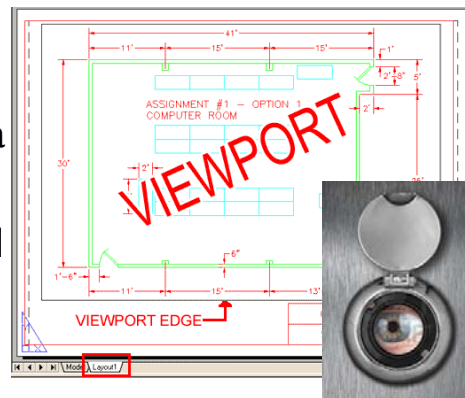
Layout

- U AutoCAD-u se koriste dva različita radna prostora: prostor za modeliranje (Model Space) i prostor za štampanje (Paper Space).
- U prostoru za modeliranje se crtaju svi geometrijski elementi crteža.
- U Layout-u se kreiraju elementi crteža za štampanje (kote, tekst, sastavnica, komentari, presjeci, detalji,...)



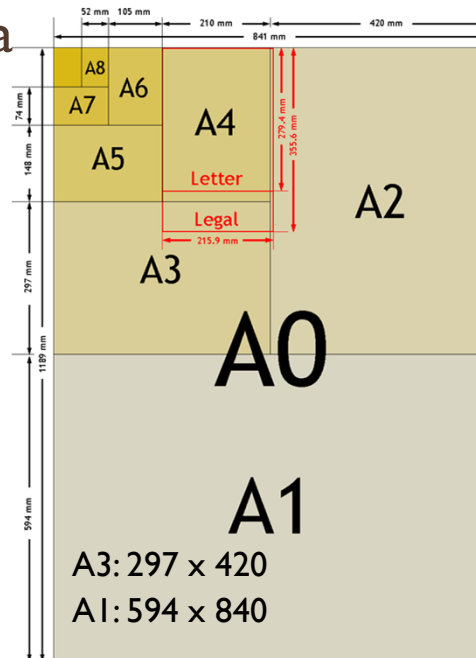
Layout

- Layout se može posmatrati kao list papira na koji se smještaju dijelovi tehničkog crteža.
- U jednoj DWG datoteci može biti više Layout-a
- **Viewport** je uokvireni pogled na modelski prostor.



Format papira

- Prije pripreme crteža za štampanje (definisanja Layout-a) potrebno je odrediti format papira.
- Standardni formati papira:
 - A4: 210 x 297
 - A2: 420 x 594



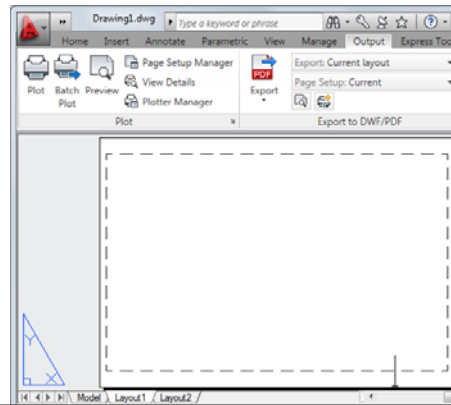
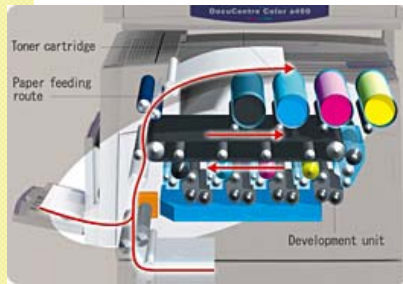
Format papira

- Output, Page setup manager, Modify...

Format papira

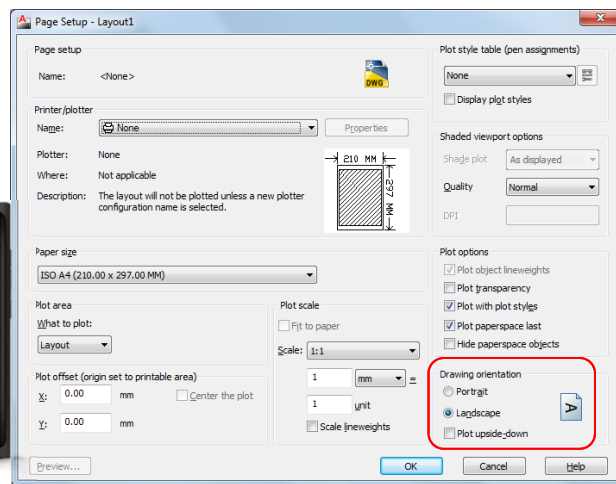


- Na Layout-u su isprekidanom linijom prikazane margine do kojih je moguće štampati na izabranom printeru (Printable Area).

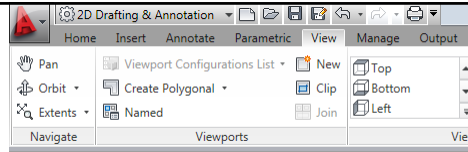


Format papira

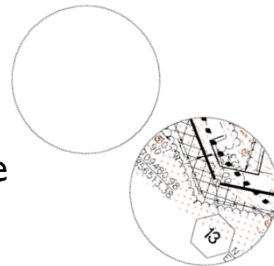
- Orientacija papira: Portrait / Landscape



Viewport

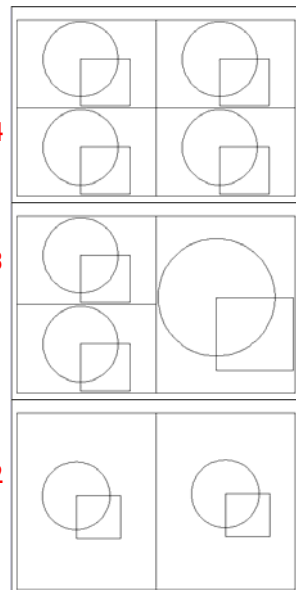


- Naredba **MView** služi za kreiranje Viewport okvira na Layout-u.
 - **Command: MVIEW**
 - **Specify corner of viewport or [ON/OFF/Fit/Shadeplot/Lock/Object/Polygonal/Restore/LAyer/2/3/4] <Fit>:**
 - **Specify opposite corner:**
- Viewport okviri se zadaju tačkama na dijagonali.
- **Object** pretvara postojeće objekte u Viewport okvire.



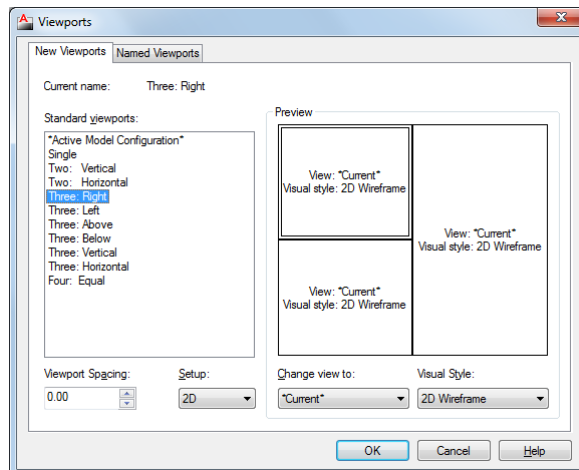
Viewport

- **Command: MV**
 - Specify corner of viewport or [ON/OFF/Fit/Shadeplot/Lock/Object/Polygonal/Restore/LAyer/2/3/4] <Fit>: **4**
- **Command: MV**
 - Specify corner of viewport or [ON/OFF/Fit/Shadeplot/Lock/Object/Polygonal/Restore/LAyer/2/3/4] <Fit>: **3**
 - Enter viewport arrangement [Horizontal/Vertical/Above/Below/Left/Right] <Right>:
- **Command: MV**
 - Specify corner of viewport or [ON/OFF/Fit/Shadeplot/Lock/Object/Polygonal/Restore/LAyer/2/3/4] <Fit>: **2**
 - Enter viewport arrangement [Horizontal/Vertical] <Vertical>:



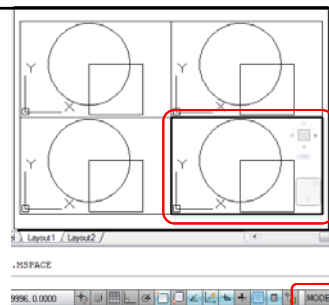
Viewport

- View, Viewports, Named



Viewport

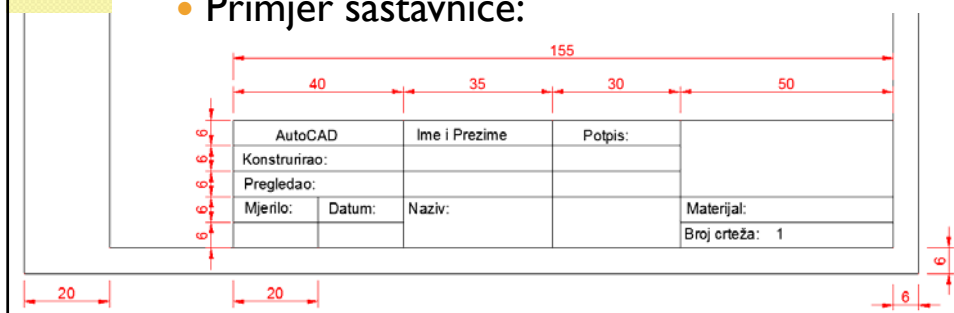
- Tipkom PAPER/MODEL u statusnoj liniji bira se način rada:



- PAPER: Viewport okviri se ponašaju kao jedinstveni objekti, koji se mogu premješati, skalirati, brisati
- MODEL: Kroz Viewport okvir se pristupa modelskom prostoru, koji se može zumirati, pomjerati (PAN) i modelirati
- Ctrl+klik – prelazak iz jednog u drugi okvir

Sastavnica

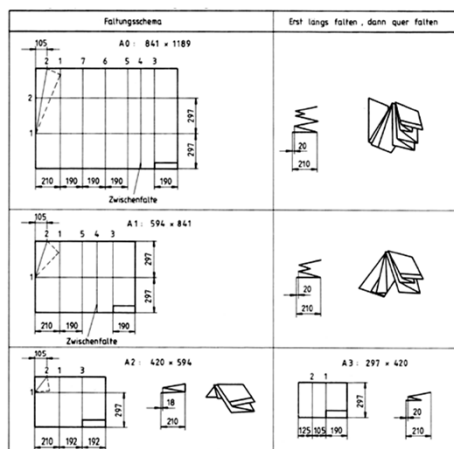
- Sastavnica se obično snimi kao blok ili kao sastavni dio predloška (Template).
- Sastavnica se ne crta u modelskom prostoru nego u Layout-u.
- Primjer sastavnice:



Sastavnica

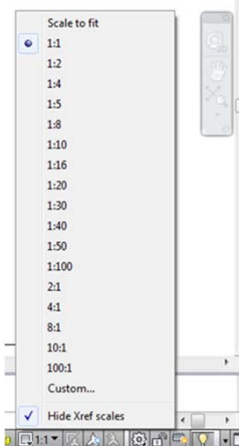
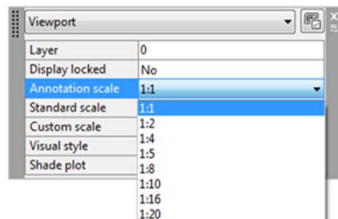


- Bez obzira na format ili orijentaciju papira, sastavnica se uvijek crta u donjem desnom uglu.
- Kod uvezivanja crteža, vrši se presavijanje papira tako da sastavnica uvijek bude vidljiva.



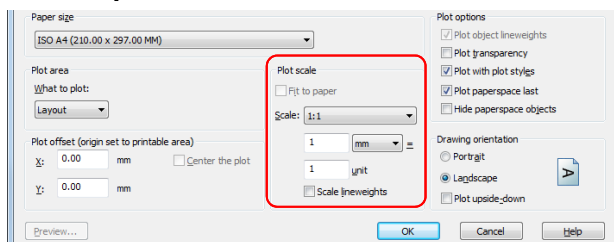
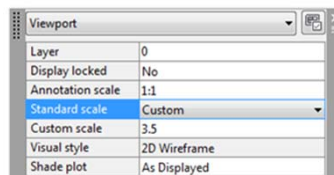
Mjerilo crteža

- Svaki Viewport može imati različito mjerilo.
- Koriste se standardna mjerila:
- metrička: (m, cm, mm)
1:1, 1:2, 1:5, 1:10,...
- anglosaksonska (inch):
1:1, 1:2, 1:4, 1:8, 1:16,...



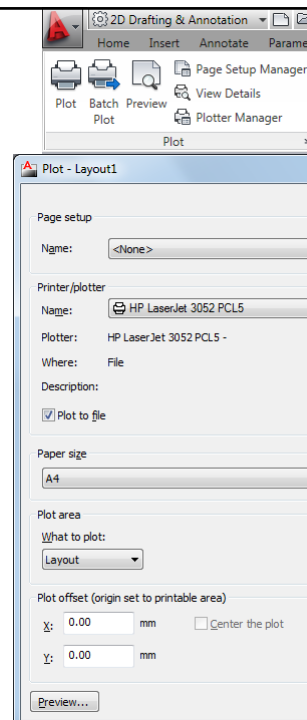
Mjerilo crteža

- "Custom" mjerilo može imati nestandardnu vrijednost, koja se unosi u "Custom scale"
- Pored mjerila za svaki viewport, može se definisati i ukupno mjerilo za cijeli crtež.



Štampanje

- Output, Plot
- Potrebno je izabrati printer/plotter
- "Paper Size" definisana za Layout je stvarna veličina crteža, bez obzira na format papira u printeru ("Paper size" kod naredbe Plot)
- Preview (za kontrolu)



Veći format na manjem papiru

- Maksimalna veličina papira je ograničena mogućnostima printera
- Na printeru maks. formata A3 mogu se štampati formati \leq A3
- Veći crteži se mogu štampati iz dijelova:
- *Plot offset* (X i/ili Y)
- Negativni offset pomjera sliku ulijevo (X), odnosno prema dole (Y)
- *Preview* (pregled prije štampanja)

