

# Leica Geosystems Release Notes

**Product** Leica MultiWorx 2.2 for AutoCAD  
**Date** 1 May 2017  
**From** HDS Software Product Management

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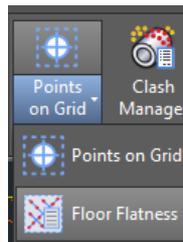
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## What's New

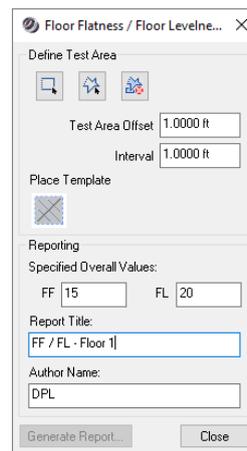
### *Floor Flatness/Floor Levelness Analysis and Reporting*

With MultiWorx 2.2 for AutoCAD a user can now perform Floor Flatness (FF) and Floor Levelness (FL) analysis with automatic report generation according to the ASTM 1155 standard. FF and FL numbers determine whether a floor is sufficiently smooth and level, respectively, as constructed. This test method covers a quantitative method of measuring floor surface profiles to obtain estimates of the floor's characteristic FF/FL Face Floor Profile numbers.

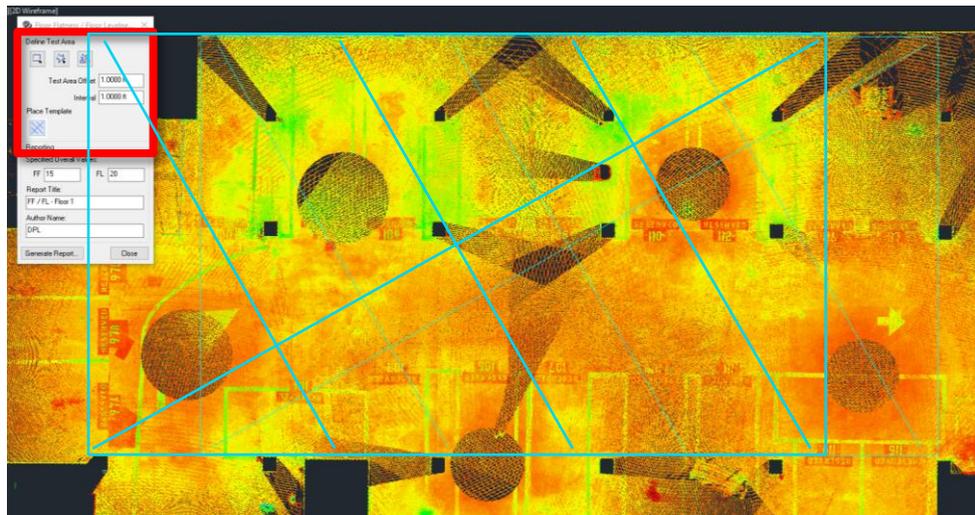
1. Once a point cloud is open, go to the MultiWorx ribbon.
2. In the **Tools** panel on the MultiWorx ribbon you will find **Floor Flatness**.



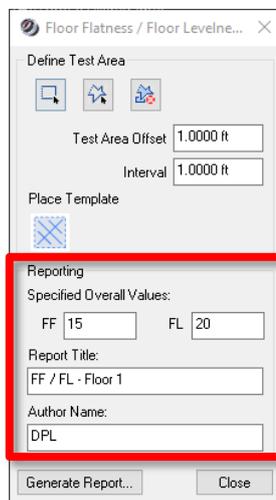
3. The following dialog will appear.



4. Go to **Define Test Area**, select a fence, and define the Test Area. Then click **Place Template** and draw the template. The template will automatically scale accordingly to the initial path.

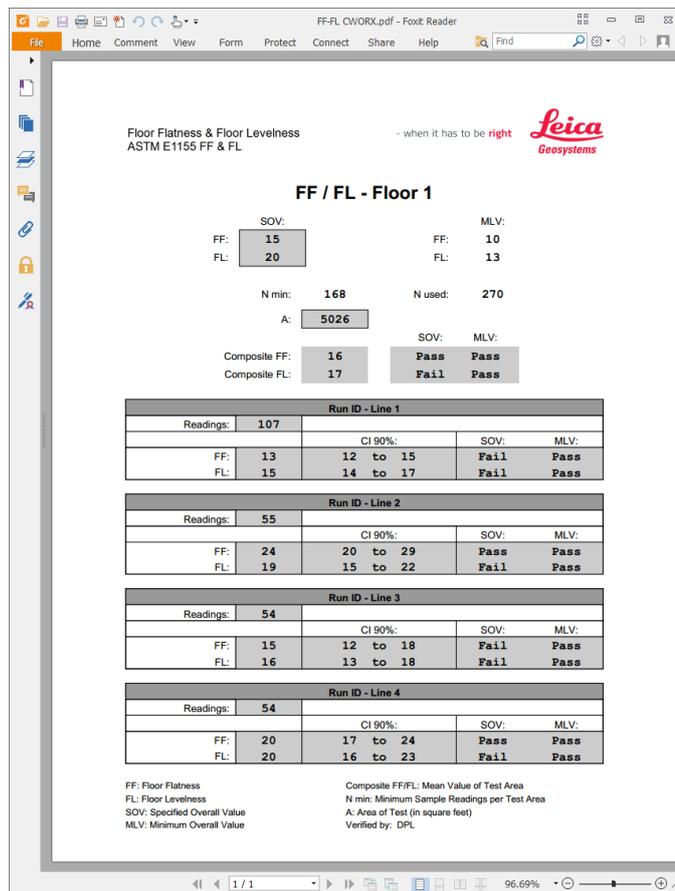


5. Next determine the **Specified Overall Values**, the **Report Title**, and **Author Name**. The information entered will be used for the report.



6. With the information entered, click **Generate Report...**
7. Choose a file location, file name, and save.

**Note:** When generating this report, the tool will generate an elevation point along the four lines using the user specified interval (1 foot by default according to the ASTM 1155 standard). These points will be calculated using the Ground SmartPick tool to gather an elevation. The tool will then use the area and the elevation points to calculate the report according to the ASTM standard.

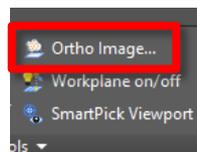


- Once the report is open, you will see all the elements needed in the report per the ASTM 1155 standard.

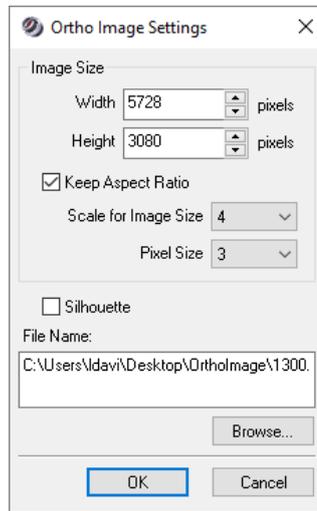
### Ortho Image Creation

With MultiWorx 2.2 for AutoCAD, user can create ortho images of the point cloud. Floor plans, elevations, and sections can all be easily produced in the simple form of an orthorectified image.

- Once a point cloud is open, the UCS orientation tools will help to quickly get to the view to generate an ortho image. For instance, use the Wall orientation tool to get to an elevation view.
- In the Tools panel on the MultiWorx ribbon you will find **Ortho Image...**



- Once selected, the user will be prompted to window select the area of interest, and the following dialog will appear.



4. The user will have the ability to Scale the image, change the Pixel size, and choose to use Silhouette mode. Additionally, the user can create a JPEG, PNG, GIF, Bitmap, and GeoTIFF.

When exporting the ortho image as a GeoTIFF the corresponding TWF and TFW files are exported. Programs that can read and use the additional positional information in the GeoTIFF specification are able to automatically position the ortho image in 2D or 3D space. Otherwise, refer to the contents of the TWF and TFW parameter files.

**Scale for Image Size** (1-10): This scales the overall image size, allowing to keep the aspect ratio. There is a potential to over scale the image, thus leaving blank spots if the scan data is not dense enough.

**Pixel Size** (1-5): This will grow the pixel size by a user-defined total diameter. It will not grow all the points, only growing the points without any neighboring points within a radius equal to half the chosen diameter. For example, if the user chooses 5, the software will examine all points, determine which points do not have a neighboring point within a 2.5 pixel radius around the point, and grow these points by 5 pixels in diameter.

5. The following image is an example of the output from the new Ortho Image tool.



### ***Auto-Fit Polyline supports fitting Arcs***

MultiWorx 2.2 for AutoCAD now supports Auto-fitting Arcs within the existing Auto-fit Polyline tool that was released in the previous version.

Once in the Auto-Fit Polyline tool, there is now an option to specify an Arc. If the user is in 1 point polyline mode, and Arc is selected it will also use a 1 pick point method. If the user is in 2 point polyline mode, and Arc is selected it will use a 3 pick point method. After the arc is fit, the user will be back in the polyline mode. The user will always have the option to select between all pick mode functionalities.

### ***Points on Grid and SmartPicks honor the UCS***

With MultiWorx 2.2 for AutoCAD user scan now can use Points on Grid and SmartPick when changing their User Coordinate System (UCS). Previous these tools only worked on the world coordinate system.

### **Bug Fixes**

- ***Bug fixed a clipping problem after using dview command in AutoCAD***

## **Leica MultiWorx 2.2 for AutoCAD Compatibility and Upgrades**

### ***Upgrading to Leica MultiWorx 2.2 from Leica MultiWorx 2.0.x***

You must have Administrator-level privileges on your workstation to correctly install Leica MultiWorx software.

If using IMP data, first run the current Cyclone installer if you do not have a version of Cyclone installed. Otherwise/Next run the MultiWorx 2.2 InstallShield and follow the directions in the InstallShield Wizard to proceed with the installation. Please heed the warning message about compatibility of earlier version databases.

All users with a currently valid CCP or with CCP which was valid as late as 15 March 2017 can receive a new license to run this version.

### ***Compatibility with Leica MultiWorx 2.2 AND Earlier Versions***

Cyclone 7.2 databases are *NOT* backward compatible. Therefore older databases must be updated before using Cyclone 7.2 and can no longer be used with earlier versions. If you need to work with your data in older versions of Cyclone or MultiWorx, you should make an archive copy of your database(s) prior to upgrading. Since it can take some time to update and optimize Cyclone databases, we recommend that you optimize your databases overnight, particularly when multiple databases are involved.

### ***Compatibility with Leica MultiWorx 2.2 AND AutoCAD Versions***

MultiWorx 2.2 officially supports Autodesk AutoCAD versions 2012-2017.

MultiWorx 2.2's support of RCP data is only supported in AutoCAD 2015 and later.

## **Known Issues**

### ***Optimizing Older Databases with Windows 7 and Higher***

If users wish to use MultiWorx 2.2 for AutoCAD to optimize IMP databases from Cyclone version 7.0 or higher, they must first disable User Access Control prior to optimizing, or the optimization will not succeed yet no meaningful error message will be produced.