Oakland Instrument Corporation
7405 Bush Lake Road
Minneapolis, MN 55439 USA
Tel & Fax: (952) 835-4935
E-mail: info@oaklandinstrument.com

Model DX-8300 Dart Drop Software
Video Script
October 30, 2017

1. **Overview**. Oakland Instrument's model DX-8300 Dart Drop Software is an industry leading software package designed to be used with pneumatic or electronic dart drop testers, to conform to the test procedures, data collection, and reporting requirements of ASTM D-1709 Standard Test Method for Impact Resistance of Plastic Film by the Free Falling Dart Method, and ISO 7765-1 Determination of Impact Resistance by the Free Falling Dart Method for Plastic Film & Sheeting.

2. **Compatible with All Dart Drop Testers**. The model DX-8300 Software can be run as a stand-alone system alongside a pneumatic or electro-magnetic dart drop tester, or in conjunction with external "Pass" and "Fail" interface buttons that are integral to an electronic dart tester, for example Oakland Instrument's model DX-8385-A Electronic Dart Drop Tester.

3. **Main Screen and Navigation Overview**. After loading your software onto your PC, and setting up a shortcut on your Desktop, simply double-click on the DX-8300 Icon to open your model DX-8300 Dart Drop Software. The Main Screen opens up first, and contains the following items:

   A. In the upper left corner of the Main Screen, are the "File" and "Help" pulldowns for Opening and Saving Tests, Graphs, and Reports
   B. On the left side of the Main Screen, are the Control Buttons for selecting Stair-Case Test Mode, Pass/Fail Test Mode, Staircase Graph, and Setup functions
   C. In the upper left of the Main Screen is the Pulldown for storing and recalling Recipes for Testing
   D. The center of the main screen contains the Stair Case and Pass/Fail Control section, and Data Graphics display
   E. The right side of the Main Screen contains the Test Input section, Test Field section, Start Test button, New Test button, and Clear button
   F. And finally, the Data Result in the lower left of the Main Screen where final test result is displayed

4. **Setting up, and Storing, a Recipe, Test Fields, & Export Setup**. To set up Recipes for testing, click on the Setup control button, and then the "Create Test" tab to enter your recipe parameters. The Create Test page is divided into four sections: Sample information, Test information, Sample Condition information, and Test Condition & Testing Technique information. Sample Parameters include: Starting Missile Weight, Weight increment, Test Method, number of Test Points for the defined test, plus Test Mode. Test Parameters include: Product Name, Order number, Technician, Sample Thickness, and Sample Width. (Additional fields can be user defined later in the "Test Fields" tab).

   If the "Stair Case" Test mode is selected in the Recipe tab, you will be able to enter a Weight Increment which is required for proper operation of this mode. If "Pass Fail" Test mode is selected, the Weight Increment will be "greyed out" and not accessible as a weight increment is not used for Pass-Fail testing.

   Simply enter appropriate values for the parameters and save your Recipe by clicking on the "Save As" button and typing in a name for the Recipe. Recipes are grouped by Test Mode selected, either for a Stair-Case test mode, or a Pass Fail test mode, and will automatically be displayed in the Recipe Pulldown List after saving.

Click on the "Test Fields" tab to custom-define up to four Test Fields. If an entry is made for a Test Field in the tab, it will now be displayed on the Main Screen and ready for data entry during test runs. If no entry is made in the four custom-defined test fields, they will not show up or be displayed on the Main Screen.

The "Export" tab allows setup of three distinct methods of auto-exporting data at the end of test runs: First, by checking the "Statistics" checkbox and entering an Export Path, the Data Result plus Test Field entries will be automatically exported at the end of a sample test to the defined path location.

Second, by checking the "Serial Data" checkbox and entering an Export Path, the Data Result, plus all data points from the test run, will be automatically exported at the end of a sample test to the defined path.

Third, by checking the "Run External Software" checkbox and setting up your Microsoft SQL String (in the "Export Setup" tab), the items selected in the executable function can be automatically exported to your database by clicking on the "Send" button on the Main Screen at the end of a sample test.

5. **Running a Stair-Case Test (including Test Complete, Sending Data, and Printing Reports).**

   Click on the "Stair-Case Test" Control Button on the left side of the Main Screen to open the Stair-Case test mode screen.

   If using a pre-programmed Recipe, click on the Recipe Pulldown in the upper-left of the Main Screen, and single-click on the recipe name you wish to open. Your Recipe List will (automatically) contain recipes of correct format for the test (".sct" extension for Stair-Case tests).   This will automatically load the recipe parameters and ready the system for starting a test.

   If you would like to start a new, manually entered test, enter the Missile Weight (for example 450 grams), enter the Increment Weight (for example 15 grams). Click on "New Test" to initiate the testing process, then click on the "Start" button in the Stair Case Control window.

   Your DX-8300 Software will populate the "Drop Number" and "Drop Weight" in the Stair Case Control window with the first weight value to drop with the current test, the "Pass" and "Fail" buttons will change from grey color to Green and Red (respectively), the "Current" counter showing Number of Passes and Number of Failures will (both) reset to "0".

   Load your first film sample, load the appropriate Drop Weight shown, and release the dart on your dart drop tester.

   If the dart impact results in a "Pass", either click on the Pass button on the Stair Case Control, or depress the Green Interface Button on your electronic dart tester to register the pass test result. Your DX-8300 Software will enter the Weight dropped on the left side of the Data Graphics Display and will change the Pass/Fail Record Indicator to Green with the letter "P" in the graphic. And, the Weight Chart in the Data Graphics Display will display the "Pass" result with a green graphic underneath the appropriate weight dropped (for example, 450 grams).

   If the dart impact results in a "Fail", then click on the Fail button on the Stair Case Control, or depress the Red Interface Button on your electronic dart tester to register the fail test result. Your DX-8300 Software will enter the appropriate information in the Data Graphics Display.

   The "Drop Number" will be incremented to "2" and the "Drop Weight" will be updated (in the Stair Case Control) to reflect the correct dart weight to drop for your 2nd drop for the test. And the Current Pass Counter or the Current Fail Counter will be updated with the cumulative number of passes or fails so far during the test run.

Continue the test, following the dart weight instructions displayed in the Stair Case Control, until the test is complete. Your DX-8300 Software will continue to log dart drop data until the correct number of drops have been done for a valid test per ASTM D-1709 and/or ISO 7765-1, and then will automatically end the test and display the test result. The "Test Complete" button in the Stair Case Control will change in color from grey to Blue to signify end-of-test, and the "Dart Impact Failure Weight" value for the test will be displayed in the Data Result box in the lower left of the Main Screen.

If the Statistics checkbox or the Serial Data checkbox were checked for the Recipe used, then the appropriate data will be automatically sent to the file designated in the Export Path designated in the Export screen. If the Run External Software checkbox was checked for the Recipe run, then you could click on the "Send" button in the Stair Case Control to send the data to your SQL Database as defined in the Export Setup screen. You can print a report for the test by clicking on the "Print" button in the Stair Case Control to view and print a full Report to the printer of your choice.

6. **Running a Pass / Fail Test (including Test Complete, Sending Data, and Printing Reports).**

   Click on the "Pass / Fail Test" Control Button on the left side of the Main Screen to open the Pass Fail test mode screen.

   If using a pre-programmed Recipe, click on the Recipe Pulldown in the upper-left of the Main Screen, and single-click on the recipe name you wish to open. Your Recipe List will (automatically) contain recipes of correct format for the test (".pft" extension for Pass Fail tests). This will automatically load the recipe parameters and ready the system for starting a test.

   If you would like to start a new, manually entered test, enter the Missile Weight (for example 450 grams), enter the number of Test Points (for example 10 drops). Click on "New Test" to initiate the testing process, then click on the "Start" button in the Stair Case Control window.

   Your DX-8300 Software will populate the "Drop Number" and "Drop Weight" in the Pass Fail Case Control window with the weight value to drop for the current test, the "Pass" and "Fail" buttons will change from grey color to Green and Red (respectively), the "Current" counter showing Number of Passes and Number of Failures will (both) reset to "0".

   Load your first film sample, load the appropriate Drop Weight shown, and release the dart on your dart drop tester.

   If the dart impact results in a "Pass", either click on the Pass button on the Pass Fail Case Control, or depress the Green Interface Button on your electronic dart tester to register the pass test result. Your DX-8300 Software will enter the Weight dropped on the left side of the Data Graphics Display and will change the Pass/Fail Record Indicator to Green with the letter "P" in the graphic (for example, 450 grams).

   If the dart impact results in a "Fail", then click on the Fail button on the Pass Fail Case Control, or depress the Red Interface Button on your electronic dart tester to register the fail test result. Your DX-8300 Software will enter the appropriate information in the Data Graphics Display.

   The "Drop Number" will be incremented to "2" (in the Pass Fail Case Control) to reflect the correct drop number to allow you to reload your weight for your 2nd drop for the test. And the Current Pass Counter or the Current Fail Counter will be updated with the cumulative number of passes or fails so far during the test run.

   Continue the test, following the instructions displayed in the Pass Fail Case Control, until the test is complete. Your DX-8300 Software will continue to log dart drop data until the correct number of drops have been done for your test (for example 10 drops), and then will automatically end the test and display

the test result. The "Test Complete" button in the Pass Fail Case Control will change in color from grey to Blue to signify end-of-test, and the "Percentage of Failures" value for the test will be displayed in the Data Result box in the lower left of the Main Screen.

If the Statistics checkbox or the Serial Data checkbox were checked for the Recipe used, then the appropriate data will be automatically sent to the file listed in the Export Path designated in the Export screen. If the Run External Software checkbox was checked for the Recipe run, then you could click on the "Send" button in the Pass Fail Case Control to send the data to your SQL Database as defined in the Export Setup screen. You can print a report for the test by clicking on the "Print" button in the Pass Fail Case Control to view and print a full Report to the printer of your choice.

7. **The Staircase Graph screen.**

At the end of a Stair Case test, you can click on the "Stair Case Graph" Control Button on the left side of the Main Screen to open the Stair Case Graph screen. This screen is formatted to the test report layout as specified in ASTM D-1709 and ISO 7765-1. The "Dart Impact Failure Weight" and the Test Data computations are displayed, in addition to a full Stair Case graphic. You can print the page by clicking on the "Print Graph" button in the lower right of the Staircase Graph screen.

8. **Contact Information.** Please contact us for additional product or services information:

Oakland Instrument Corp.
7405 Bush Lake Road
Minneapolis, MN 55438 USA
TEL & FAX: (952) 835-4935
EMAIL: info@OaklandInstrument.com
WEB: www.OaklandInstrument.com