

NX - Understanding Surface Continuity and Interpreting the Results

To check surface continuity, in NX4 and NX5, select **Analysis => Shape => Surface Continuity**. Note: this function requires a **Shape Studio** license.

The surface continuity tool lets you check surface deviations in real time. You can use **Surface Continuity** to display variations in position, tangency, curvature and acceleration along an edge, or when you need to visually check the continuity between surfaces.

For a continuity check, you could have **G0, G1, G2** or **G3**, which represent the following:

G0: Gap value, in mm or inches.

G1: Normal vector difference (angle), in **degrees**.

G2: Relative value of **Curvature difference**, dimensionless, Max value =2, Min Value = 0.

G3: Relative value of **Acceleration difference**, dimensionless, Max value =2, Min Value = 0.

All these numbers are independent of each other.

After selecting the desired continuity check, select the surfaces and you will get some results displayed on the screen for G0, G1, G2, or G3.

If you are checking 2 surfaces using a Continuity Check of G1, G2, G3, the display could show something like this:

G1= 0, G2 = .078, G3 = .19

What do these numbers mean exactly? We can only conclude the following:

G1 = 0: Tangent planes have the same normal vectors on the selected edges.

G2 = .078: Relative value of **Curvature difference** is small (7.8%), rule of thumb: <= 20-25% is OK.

G3 = .19: Relative value of **Acceleration difference** is small, (19%), rule of thumb: <= 20-25% is OK.

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