

## Items of Interest

### About Splines, NURBS, Polygons

Polygons are linear curves; they connect points in space in a connect-the-dots fashion. Splines use curves of higher degree; involving terms like  $x$ -squared or  $x$ -cubed to make smooth connections between points in space. ModelPro uses splines to help describe curved surfaces, thus making its models more smooth than polygonal modelers.

NURBS stands for Non-Uniform Rational B-Spline. B-splines are a type of spline which stays very smooth when you move its control handles around. Other types of splines do not stay quite as smooth when you move their control points. The non-uniform part is an advantage in that it helps to make curves that do not have tight loops. The rational part makes it possible to create perfect circular arcs. If a spline is not rational, you can only approximate circular arcs. ModelPro does not employ NURBS.