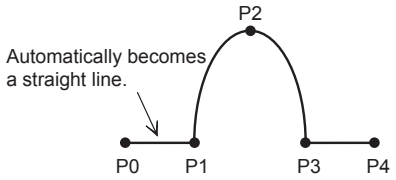
### 3.2.2.4 Spline Interpolation

When performing operations such as welding, cutting, and applying primer, using the spline interpolation makes teaching for workpieces with irregular shapes easier. The path of motion is a parabola passing through three points. When spline interpolation is used for teaching a robot axis, the move instruction is MOVS.

■ **Single Spline Curve**

When a single spline curve movement is required, teach the spline interpolation for three points, P1 to P3, as shown in the figure below. If joint or linear interpolation is taught at point P0, the point before starting the spline interpolation, the manipulator moves from P0 to P1 in a straight line.

*Table 3-2: Interpolation Type for Single Spline Curve*

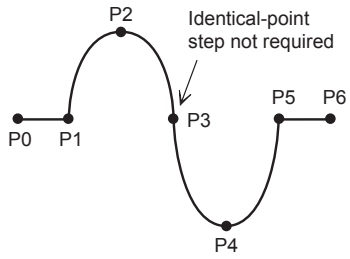



| Point | Interpolation Type | Instruction |
|---|---|---|
| P0 | Joint or Linear | MOVJ MOVL |
| P1 P2 P3 | Spline | MOVS |
| P4 | Joint or Linear | MOVJ MOVL |

■ **Continuous Spline Curves**

The manipulator moves through a path created by combining parabolic curves. This differs from the circular interpolation in that steps at an identical point or an FPT tag is not required at the connecting point between two spline curves.

*Table 3-3: Interpolation Type for Continuous Spline Curves*




| Point | Interpolation Type | Instruction |
|---|---|---|
| P0 | Joint or Linear | MOVJ MOVL |
| P1 to P5 | Spline | MOVS |
| P6 | Joint or Linear | MOVJ MOVL |

When the parabolas overlap, a composite motion path is created.