

C++ code 5.15.20: Class definition of ClosedQuadraticSplineCurve

```
2 class ClosedQuadraticSplineCurve {
3 public:
4     // Constructor
5     explicit ClosedQuadraticSplineCurve(const Eigen::Matrix2Xd &p);
6     ~ClosedQuadraticSplineCurve() = default;
7     ClosedQuadraticSplineCurve() = delete;
8     ClosedQuadraticSplineCurve(const ClosedQuadraticSplineCurve &) = delete;
9     ClosedQuadraticSplineCurve(const ClosedQuadraticSplineCurve &&) = delete;
10    ClosedQuadraticSplineCurve &operator=(const ClosedQuadraticSplineCurve &) =
11        delete;
12    // Point evaluation operator for sorted parameter arguments
13    [[nodiscard]] Eigen::Matrix2Xd curve_points(const Eigen::VectorXd &v) const;
14    // Curvature evaluation operator for sorted parameter arguments
15    [[nodiscard]] Eigen::VectorXd local_curvatures(
16        const Eigen::VectorXd &v) const;
17    // Approximate computation of the length of the curve
18    [[nodiscard]] double length(double rtol = 1E-6) const;
19
20 private:
21    [[nodiscard]] bool checkC1(double tol = 1.0E-4) const;
22    // Number of points to be interpolated
23    unsigned int n_;
24    // Coordinates of interpolated points, duplicate:  $p^0 = p^n$ 
25    Eigen::Matrix2Xd p_;
26    // Knot sequence
27    Eigen::VectorXd t_;
28    // Coefficients in local representation
29    Eigen::Matrix2Xd x_;
30 };
```

Get it on 🐙 [GitLab](#) ([periodicquadraticsplines.hpp](#)).