

# 1 Results

## 1.1 Main Results

| model            | R2              | MSE  | hidden sizes | total hs | epochs |
|------------------|-----------------|------|--------------|----------|--------|
| ReluTanhFFNN     | $95.3 \pm 2.3$  | 0.04 | [15, 10, 3]  | 28       | 20     |
|                  | $94.6 \pm 5.3$  | 0.05 | [15, 10, 3]  | 28       | 50     |
|                  | $94.4 \pm 5.6$  | 0.05 | [15, 10, 3]  | 28       | 200    |
|                  | $94.2 \pm 5.5$  | 0.05 | [15, 10, 3]  | 28       | 100    |
|                  | $93.0 \pm 4.4$  | 0.06 | [8, 4]       | 12       | 50     |
|                  | $91.4 \pm 7.6$  | 0.08 | [15, 5]      | 20       | 50     |
|                  | $91.3 \pm 5.5$  | 0.08 | [8, 4]       | 12       | 200    |
|                  | $90.9 \pm 5.6$  | 0.08 | [8, 4]       | 12       | 100    |
| TanhReluFFNN     | $90.4 \pm 9.1$  | 0.08 | [8, 4]       | 12       | 100    |
|                  | $90.3 \pm 9.4$  | 0.08 | [8, 4]       | 12       | 200    |
|                  | $90.3 \pm 8.5$  | 0.09 | [8, 4]       | 12       | 50     |
| ReluTanhFFNN     | $90.0 \pm 9.1$  | 0.09 | [15, 5]      | 20       | 20     |
| TanhFFNN         | $89.7 \pm 6.6$  | 0.09 | [8, 4]       | 12       | 50     |
| ReluTanhFFNN     | $89.1 \pm 6.5$  | 0.1  | [15, 5]      | 20       | 100    |
|                  | $88.9 \pm 5.8$  | 0.1  | [15, 5]      | 20       | 200    |
| Relu2HiddenLayer | $87.0 \pm 8.3$  | 0.11 | [8, 4]       | 12       | 20     |
|                  | $86.9 \pm 8.4$  | 0.11 | [8, 4]       | 12       | 50     |
| TanhReluFFNN     | $85.7 \pm 9.8$  | 0.13 | [15, 5]      | 20       | 20     |
| Relu1HiddenLayer | $84.8 \pm 7.3$  | 0.13 | [10]         | 10       | 20     |
| TanhReluFFNN     | $84.3 \pm 12.4$ | 0.14 | [15, 5]      | 20       | 50     |
| TanhLinFFNN      | $84.1 \pm 11.7$ | 0.14 | [8, 4]       | 12       | 50     |
| TanhReluFFNN     | $84.0 \pm 12.6$ | 0.14 | [15, 5]      | 20       | 100    |
|                  | $83.8 \pm 13.1$ | 0.14 | [15, 5]      | 20       | 200    |
| ReluTanhFFNN     | $83.1 \pm 6.7$  | 0.15 | [10]         | 10       | 100    |
| ReluFFNN         | $83.1 \pm 6.7$  | 0.15 | [10]         | 10       | 100    |
|                  | $82.9 \pm 5.7$  | 0.15 | [10]         | 10       | 200    |
| ReluTanhFFNN     | $82.9 \pm 5.7$  | 0.15 | [10]         | 10       | 200    |
| Relu2HiddenLayer | $82.9 \pm 8.7$  | 0.15 | [8, 4]       | 12       | 200    |
| ReluTanhFFNN     | $82.7 \pm 9.8$  | 0.15 | [8, 4]       | 12       | 20     |
| TanhLinFFNN      | $82.6 \pm 9.1$  | 0.15 | [8, 4]       | 12       | 100    |
| Relu2HiddenLayer | $82.5 \pm 10.2$ | 0.15 | [8, 4]       | 12       | 100    |
| TanhLinFFNN      | $81.7 \pm 10.6$ | 0.16 | [8, 4]       | 12       | 200    |
| ReluFFNN         | $81.3 \pm 7.7$  | 0.16 | [10]         | 10       | 50     |
| ReluTanhFFNN     | $81.3 \pm 7.7$  | 0.16 | [10]         | 10       | 50     |
| TanhFFNN         | $80.5 \pm 18.3$ | 0.17 | [8, 4]       | 12       | 100    |
| ReluTanhFFNN     | $79.6 \pm 9.2$  | 0.18 | [10]         | 10       | 20     |
| ReluFFNN         | $79.6 \pm 9.2$  | 0.18 | [10]         | 10       | 20     |
|                  | $79.6 \pm 14.5$ | 0.18 | [8, 4]       | 12       | 200    |
|                  | $79.3 \pm 14.6$ | 0.18 | [8, 4]       | 12       | 100    |
| Relu2HiddenLayer | $78.1 \pm 20.0$ | 0.19 | [15, 5]      | 20       | 20     |
| ReluFFNN         | $77.9 \pm 14.2$ | 0.19 | [8, 4]       | 12       | 50     |

|                  |                 |      |             |    |     |
|------------------|-----------------|------|-------------|----|-----|
| TanhFFNN         | 77.8 $\pm$ 17.3 | 0.19 | [15, 10, 3] | 28 | 50  |
| GRNN             | 76.9 $\pm$ 12.0 | 0.2  | [10]        | 10 | 20  |
| Relu2HiddenLayer | 76.7 $\pm$ 16.3 | 0.2  | [15, 5]     | 20 | 50  |
| TanhReluFFNN     | 76.7 $\pm$ 17.6 | 0.2  | [8, 4]      | 12 | 20  |
| TanhLinFFNN      | 74.6 $\pm$ 14.5 | 0.22 | [8, 4]      | 12 | 20  |
| Relu2HiddenLayer | 74.6 $\pm$ 20.2 | 0.22 | [15, 5]     | 20 | 100 |
| TanhFFNN         | 74.3 $\pm$ 23.1 | 0.22 | [15, 10, 3] | 28 | 20  |
| Tanh2HiddenLayer | 74.3 $\pm$ 33.2 | 0.22 | [8, 4]      | 12 | 100 |
|                  | 74.1 $\pm$ 31.2 | 0.23 | [8, 4]      | 12 | 50  |
| Relu2HiddenLayer | 73.3 $\pm$ 21.2 | 0.23 | [15, 5]     | 20 | 200 |
| ReluFFNN         | 72.8 $\pm$ 18.1 | 0.24 | [15, 10, 3] | 28 | 50  |
| Tanh2HiddenLayer | 72.1 $\pm$ 31.9 | 0.24 | [8, 4]      | 12 | 200 |
|                  | 72.0 $\pm$ 31.9 | 0.24 | [15, 5]     | 20 | 100 |
| ReluFFNN         | 71.3 $\pm$ 15.1 | 0.25 | [15, 10, 3] | 28 | 100 |
| TanhFFNN         | 70.9 $\pm$ 27.0 | 0.25 | [8, 4]      | 12 | 200 |
| ReluFFNN         | 70.8 $\pm$ 14.7 | 0.26 | [15, 10, 3] | 28 | 200 |
| GRNN             | 70.7 $\pm$ 16.4 | 0.26 | [10]        | 10 | 50  |
| TanhFFNN         | 70.1 $\pm$ 24.1 | 0.26 | [15, 5]     | 20 | 20  |
| TanhLinFFNN      | 69.6 $\pm$ 20.4 | 0.27 | [15, 10, 3] | 28 | 200 |
| TanhReluFFNN     | 68.7 $\pm$ 27.3 | 0.27 | [10]        | 10 | 20  |
| TanhFFNN         | 68.7 $\pm$ 27.3 | 0.27 | [10]        | 10 | 20  |
| TanhLinFFNN      | 68.7 $\pm$ 27.3 | 0.27 | [10]        | 10 | 20  |
| Tanh2HiddenLayer | 67.8 $\pm$ 32.1 | 0.28 | [15, 5]     | 20 | 200 |
|                  | 67.6 $\pm$ 22.8 | 0.28 | [8, 4]      | 12 | 20  |
| TanhLinFFNN      | 67.5 $\pm$ 25.4 | 0.28 | [15, 10, 3] | 28 | 100 |
| Tanh2HiddenLayer | 67.5 $\pm$ 24.1 | 0.28 | [15, 5]     | 20 | 20  |
| GRNN             | 67.5 $\pm$ 29.9 | 0.28 | [10]        | 10 | 100 |
| Tanh2HiddenLayer | 67.4 $\pm$ 37.3 | 0.29 | [15, 5]     | 20 | 50  |
| TanhReluFFNN     | 67.1 $\pm$ 41.3 | 0.29 | [10]        | 10 | 50  |
|                  | 67.1 $\pm$ 24.1 | 0.29 | [15, 10, 3] | 28 | 200 |
| TanhLinFFNN      | 67.1 $\pm$ 41.3 | 0.29 | [10]        | 10 | 50  |
| TanhFFNN         | 67.1 $\pm$ 41.3 | 0.29 | [10]        | 10 | 50  |
| TanhLinFFNN      | 67.0 $\pm$ 27.6 | 0.29 | [15, 10, 3] | 28 | 50  |
| ReluFFNN         | 66.8 $\pm$ 17.9 | 0.29 | [15, 5]     | 20 | 200 |
|                  | 65.1 $\pm$ 9.5  | 0.31 | [15, 10, 3] | 28 | 20  |
| TanhReluFFNN     | 63.8 $\pm$ 20.2 | 0.32 | [15, 10, 3] | 28 | 100 |
| ReluFFNN         | 63.4 $\pm$ 19.0 | 0.32 | [15, 5]     | 20 | 50  |
| GRNN             | 63.4 $\pm$ 28.9 | 0.32 | [10]        | 10 | 200 |
| TanhLinFFNN      | 63.3 $\pm$ 21.0 | 0.32 | [15, 10, 3] | 28 | 20  |
| ReluFFNN         | 62.6 $\pm$ 13.8 | 0.33 | [15, 5]     | 20 | 20  |
| TanhLinFFNN      | 62.1 $\pm$ 12.8 | 0.33 | [15, 5]     | 20 | 20  |
| ReluFFNN         | 61.8 $\pm$ 20.7 | 0.33 | [15, 5]     | 20 | 100 |
| TanhFFNN         | 60.5 $\pm$ 40.0 | 0.35 | [15, 10, 3] | 28 | 100 |
|                  | 59.4 $\pm$ 43.3 | 0.36 | [15, 10, 3] | 28 | 200 |
| TanhReluFFNN     | 59.3 $\pm$ 39.6 | 0.36 | [10]        | 10 | 200 |

|                    |                 |      |             |    |     |
|--------------------|-----------------|------|-------------|----|-----|
| TanhLinFFNN        | 59.3 $\pm$ 39.6 | 0.36 | [10]        | 10 | 200 |
| TanhFFNN           | 59.3 $\pm$ 39.6 | 0.36 | [10]        | 10 | 200 |
| TanhReluFFNN       | 59.1 $\pm$ 40.1 | 0.36 | [10]        | 10 | 100 |
| TanhFFNN           | 59.1 $\pm$ 40.1 | 0.36 | [10]        | 10 | 100 |
| TanhLinFFNN        | 59.1 $\pm$ 40.1 | 0.36 | [10]        | 10 | 100 |
|                    | 58.9 $\pm$ 21.2 | 0.36 | [15, 5]     | 20 | 200 |
|                    | 58.8 $\pm$ 21.3 | 0.36 | [15, 5]     | 20 | 50  |
|                    | 58.7 $\pm$ 21.3 | 0.36 | [15, 5]     | 20 | 100 |
| TanhReluFFNN       | 57.4 $\pm$ 6.9  | 0.37 | [15, 10, 3] | 28 | 20  |
| TanhFFNN           | 56.6 $\pm$ 41.6 | 0.38 | [15, 5]     | 20 | 50  |
| Linear2HiddenLayer | 55.8 $\pm$ 10.0 | 0.39 | [15, 5]     | 20 | 20  |
| LinearFFNN         | 55.0 $\pm$ 0.6  | 0.39 | [15, 10, 3] | 28 | 50  |
|                    | 54.6 $\pm$ 0.4  | 0.4  | [15, 10, 3] | 28 | 100 |
|                    | 54.6 $\pm$ 0.3  | 0.4  | [15, 5]     | 20 | 200 |
|                    | 54.6 $\pm$ 0.4  | 0.4  | [15, 10, 3] | 28 | 200 |
|                    | 54.6 $\pm$ 0.3  | 0.4  | [15, 5]     | 20 | 100 |
| TanhFFNN           | 54.5 $\pm$ 35.5 | 0.4  | [15, 5]     | 20 | 200 |
| LinearFFNN         | 54.4 $\pm$ 1.4  | 0.4  | [8, 4]      | 12 | 50  |
|                    | 54.2 $\pm$ 0.7  | 0.4  | [8, 4]      | 12 | 200 |
| Linear2HiddenLayer | 54.1 $\pm$ 0.9  | 0.4  | [15, 5]     | 20 | 200 |
|                    | 54.1 $\pm$ 0.9  | 0.4  | [15, 5]     | 20 | 100 |
|                    | 54.1 $\pm$ 2.0  | 0.4  | [15, 5]     | 20 | 50  |
| Relu1HiddenLayer   | 54.0 $\pm$ 50.7 | 0.4  | [10]        | 10 | 50  |
| LinearFFNN         | 53.9 $\pm$ 0.5  | 0.4  | [8, 4]      | 12 | 100 |
|                    | 53.5 $\pm$ 0.3  | 0.41 | [15, 5]     | 20 | 50  |
| Linear2HiddenLayer | 53.4 $\pm$ 10.2 | 0.41 | [8, 4]      | 12 | 20  |
| LinearFFNN         | 52.4 $\pm$ 3.2  | 0.42 | [15, 5]     | 20 | 20  |
| Linear2HiddenLayer | 52.1 $\pm$ 3.7  | 0.42 | [8, 4]      | 12 | 200 |
|                    | 52.1 $\pm$ 3.7  | 0.42 | [8, 4]      | 12 | 100 |
|                    | 51.9 $\pm$ 3.8  | 0.42 | [8, 4]      | 12 | 50  |
| TanhFFNN           | 51.8 $\pm$ 30.6 | 0.42 | [8, 4]      | 12 | 20  |
| TanhReluFFNN       | 51.2 $\pm$ 21.9 | 0.43 | [15, 10, 3] | 28 | 50  |
| LinearFFNN         | 50.8 $\pm$ 4.8  | 0.43 | [8, 4]      | 12 | 20  |
| ReluFFNN           | 50.1 $\pm$ 28.7 | 0.44 | [8, 4]      | 12 | 20  |
| LinearFFNN         | 49.4 $\pm$ 4.7  | 0.44 | [10]        | 10 | 100 |
|                    | 49.3 $\pm$ 4.6  | 0.44 | [10]        | 10 | 200 |
|                    | 49.3 $\pm$ 4.1  | 0.44 | [15, 10, 3] | 28 | 20  |
| TanhFFNN           | 49.1 $\pm$ 42.5 | 0.45 | [15, 5]     | 20 | 100 |
| Linear1HiddenLayer | 48.8 $\pm$ 7.4  | 0.45 | [10]        | 10 | 100 |
|                    | 48.7 $\pm$ 7.3  | 0.45 | [10]        | 10 | 200 |
| LinearFFNN         | 48.1 $\pm$ 5.3  | 0.45 | [10]        | 10 | 50  |
| Linear1HiddenLayer | 47.7 $\pm$ 9.2  | 0.46 | [10]        | 10 | 50  |
| Relu1HiddenLayer   | 45.0 $\pm$ 48.3 | 0.48 | [10]        | 10 | 100 |
| Linear1HiddenLayer | 44.0 $\pm$ 14.5 | 0.49 | [10]        | 10 | 20  |
| Tanh1HiddenLayer   | 43.5 $\pm$ 42.3 | 0.49 | [10]        | 10 | 20  |

|                  |                 |      |      |    |     |
|------------------|-----------------|------|------|----|-----|
| LinearFFNN       | $41.0 \pm 8.2$  | 0.52 | [10] | 10 | 20  |
| Relu1HiddenLayer | $41.0 \pm 50.5$ | 0.52 | [10] | 10 | 200 |
| RBFN             | $40.8 \pm 11.0$ | 0.52 | [10] | 10 | 200 |
|                  | $39.2 \pm 10.2$ | 0.53 | [10] | 10 | 100 |
|                  | $26.2 \pm 13.1$ | 0.65 | [10] | 10 | 50  |
| Tanh1HiddenLayer | $18.8 \pm 72.7$ | 0.71 | [10] | 10 | 50  |
|                  | $14.2 \pm 79.8$ | 0.75 | [10] | 10 | 100 |
|                  | $14.1 \pm 78.3$ | 0.75 | [10] | 10 | 200 |
| RBFN             | $-5.8 \pm 4.3$  | 0.93 | [10] | 10 | 20  |

## 1.2 Backward Feature Selection

| features  | R2    |
|---|-------|
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp | 95.29 |
| Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp             | 76.07 |
| SG Coating, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp               | 76.07 |
| SG Coating, Temp Alk Sol, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp           | 76.07 |
| SG Coating, Temp Alk Sol, NaOH Wt%, pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp                     | 87.47 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp         | 92.79 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Dip Time Sol (s), Clay Conc, Cure Time (min), Cure Temp                 | 92.1  |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Clay Conc, Cure Time (min), Cure Temp                   | 97.4  |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Cure Time (min), Cure Temp            | 55.97 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Temp                  | 53.91 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Dip Time Sol (s), Clay Conc, Cure Time (min)            | 74.51 |
| Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Clay Conc, Cure Time (min), Cure Temp                               | 92.9  |
| SG Coating, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Clay Conc, Cure Time (min), Cure Temp                                 | 92.9  |
| SG Coating, Temp Alk Sol, Dip Time Alk (min), pH Sol, Hydro Time (h), Clay Conc, Cure Time (min), Cure Temp                             | 92.9  |
| SG Coating, Temp Alk Sol, NaOH Wt%, pH Sol, Hydro Time (h), Clay Conc, Cure Time (min), Cure Temp                                       | 95.57 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), Hydro Time (h), Clay Conc, Cure Time (min), Cure Temp                           | 85.71 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Clay Conc, Cure Time (min), Cure Temp                                   | 97.5  |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Cure Time (min), Cure Temp                              | 43.32 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Clay Conc, Cure Temp                                    | 60.99 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Hydro Time (h), Clay Conc, Cure Time (min)                              | 81    |
| Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Clay Conc, Cure Time (min), Cure Temp   | 90.77 |
| SG Coating, NaOH Wt%, Dip Time Alk (min), pH Sol, Clay Conc, Cure Time (min), Cure Temp   | 90.77 |
| SG Coating, Temp Alk Sol, Dip Time Alk (min), pH Sol, Clay Conc, Cure Time (min), Cure Temp   | 90.77 |
| SG Coating, Temp Alk Sol, NaOH Wt%, pH Sol, Clay Conc, Cure Time (min), Cure Temp   | 94.85 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), Clay Conc, Cure Time (min), Cure Temp   | 91.66 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Cure Time (min), Cure Temp  | 9.19  |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Clay Conc, Cure Temp  | 57.05 |
| SG Coating, Temp Alk Sol, NaOH Wt%, Dip Time Alk (min), pH Sol, Clay Conc, Cure Time (min)  | 73.86 |

Table 2: Results of Backward Feature Elimination

**1.3 Forward Feature Selection**

**1.4 Weight Analysis**

**1.5 Jackknife Sensitivity Analysis**

| features  | R2     |
|---|--------|
| pH Sol  | 14.96  |
| Hydro Time (h)  | 33.65  |
| Dip Time Sol (s)  | 11.2   |
| Clay Conc   | 68.7   |
| Cure Time (min)   | -15.76 |
| SG Coating, Clay Conc   | 63.12  |
| Temp Alk Sol, Clay Conc   | 63.12  |
| NaOH Wt%, Clay Conc   | 63.12  |
| Dip Time Alk (min), Clay Conc                                       | 47.64  |
| pH Sol, Clay Conc   | 77.65  |
| Hydro Time (h), Clay Conc   | -24.51 |
| Dip Time Sol (s), Clay Conc   | 68.92  |
| Cure Time (min), Clay Conc  | 67.83  |
| Cure Temp, Clay Conc  | 62.76  |
| SG Coating, Clay Conc, pH Sol                                       | 82     |
| Temp Alk Sol, Clay Conc, pH Sol                                     | 82     |
| NaOH Wt%, Clay Conc, pH Sol   | 82     |
| Dip Time Alk (min), Clay Conc, pH Sol                               | 72.38  |
| Hydro Time (h), Clay Conc, pH Sol                                   | 32.74  |
| Dip Time Sol (s), Clay Conc, pH Sol                                 | 75.65  |
| Cure Time (min), Clay Conc, pH Sol                                  | 70.52  |
| Cure Temp, Clay Conc, pH Sol  | 71.84  |
| Temp Alk Sol, Clay Conc, pH Sol, SG Coating                         | 87.46  |
| NaOH Wt%, Clay Conc, pH Sol, SG Coating                             | 87.46  |
| Dip Time Alk (min), Clay Conc, pH Sol, SG Coating                   | 80.65  |
| Hydro Time (h), Clay Conc, pH Sol, SG Coating                       | 43.08  |
| Dip Time Sol (s), Clay Conc, pH Sol, SG Coating                     | 90.78  |
| Cure Time (min), Clay Conc, pH Sol, SG Coating                      | 62.85  |
| Cure Temp, Clay Conc, pH Sol, SG Coating                            | 58.38  |
| Temp Alk Sol, Clay Conc, pH Sol, SG Coating, Dip Time Sol (s)       | 81.02  |
| NaOH Wt%, Clay Conc, pH Sol, SG Coating, Dip Time Sol (s)           | 81.02  |
| Dip Time Alk (min), Clay Conc, pH Sol, SG Coating, Dip Time Sol (s) | 89.34  |
| Hydro Time (h), Clay Conc, pH Sol, SG Coating, Dip Time Sol (s)     | 52.86  |
| Cure Time (min), Clay Conc, pH Sol, SG Coating, Dip Time Sol (s)    | 73.46  |
| Cure Temp, Clay Conc, pH Sol, SG Coating, Dip Time Sol (s)          | 67.5   |

Table 3: Results of Forward Feature Selection for different features

| Feature            | Weight Importance |
|--------------------|-------------------|
| Cure Temp          | 0.713951          |
| Cure Time (min)    | 0.551723          |
| Dip Time Alk (min) | 0.490538          |
| pH Sol             | 0.486925          |
| SG Coating         | 0.471994          |
| Clay Conc          | 0.466521          |
| Temp Alk Sol       | 0.352937          |
| NaOH Wt%           | 0.321755          |

Table 4: Results of Weight Analysis

| Feature            | Sensitivity | Variance    |
|--------------------|-------------|-------------|
| pH Sol             | 90.3353     | 0           |
| Cure Temp          | 74.2398     | 0           |
| Clay Conc          | 61.0197     | 5.04871e-29 |
| Cure Time (min)    | 57.8055     | 1.26218e-29 |
| Dip Time Alk (min) | 17.788      | 2.01948e-28 |
| Hydro Time (h)     | 12.1667     | 0           |
| Dip Time Sol (s)   | -0.423155   | 2.01948e-28 |
| SG Coating         | -4.62461    | 0           |
| Temp Alk Sol       | -4.62461    | 0           |
| NaOH Wt%           | -4.62461    | 0           |

Table 5: Results of Jackknife Sensitivity Analysis