

Permit Reference Number: UP3831ES

Installation: TS Resins, Alyn Works

Reporting of Energy Usage for the year.....2018.....

Operator:

TS Resins Ltd

Form Number:

E1

| Energy Usage   |              |          |                      |                                   |
|----------------|--------------|----------|----------------------|-----------------------------------|
| Energy Source  | Energy Usage |          |                      | Units                             |
|                |              | Quantity | Primary Energy (MWh) | CO <sub>2</sub> Produced (tonnes) |
| Production     | tonnes       | 22896    |                      |                                   |
|                |              |          |                      |                                   |
| Electricity*   | MWh          | 2143     | 5566                 | 924                               |
| Steam**        | tonnes       | 3417     | 3272                 | 622                               |
| Gas oil        | tonnes       | 4.195    | 53                   | 13                                |
| Heavy fuel oil | tonnes       | 0        | 0                    | 0                                 |
|                |              |          |                      |                                   |
| TOTAL          |              | -        | 8838                 | 1559                              |
|                |              |          |                      |                                   |
|                |              |          |                      |                                   |
|                |              |          |                      |                                   |

\*Conversion factor for delivered electricity to primary energy = 0.385

\*\* Steam is supplied from natural gas fired boilers.

| Trends In Energy Usage |                |                          |                                 |
|------------------------|----------------|--------------------------|---------------------------------|
| Year                   | Parameter      |                          |                                 |
|                        | Primary Energy | CO <sub>2</sub> produced | CO <sub>2</sub> per unit output |
| 2018                   | 8838           | 1559                     | 0.068                           |
| 2017                   | 8595           | 1453                     | 0.060                           |
| 2016                   | 7739           | 1350                     | 0.060                           |
| 2015                   | 7912           | 1312                     | 0.061                           |
| 2014                   | 8168           | 1325                     | 0.035                           |
| 2013                   | 8968.0         | 1573.3                   | 0.041                           |
| 2012                   | 8484.1         | 1487.1                   | 0.037                           |
| 2011                   | 7973.4         | 1381.2                   | 0.023                           |
| 2010                   | 9238.4         | 1617.1                   | 0.025                           |
| 2009                   | 7447.9         | 1318.2                   | 0.022                           |
| 2008                   | 8738.4         | 1554.9                   | 0.026                           |

Operator comments:

Boiler efficiency = 80%

Energy use is dependent on product mix.

Signed .....  .....

Date: .....14/01/2019.....

(authorised to sign as representative of the Operator)