

For producing flowing screed utilising Gyvlon Binder

1. MATERIALS STORAGE

Gyvlon Binder

- Ensure the silo is swept clean and completely free of any type of contamination prior to charging with Gyvlon binder.
- Label the silo inlet pipe confirming contents as Gyvlon binder.

Graded Sand

- All sands must have been tested and approved for use with Gyvlon binder.
- Ensure the necessary precautions preventing contamination with non-approved sand and gravel have been taken;
 1. Check ground storage bays, ground-receiving hopper, weigh hopper and conveyors for cleanliness.
 2. Ensure overhead storage bins are not overfilled and dividing walls are in good condition with no holes or splits.
- Do not use sand contaminated by ice, frost or snow.

Water

- Mixing water should be of mains quality. Do not use recycled or well water unless approved for use following a satisfactory laboratory trial or supported by chemical analysis to BS3148.

2. LOADING AND MIXING

- The quantity of water required to attain the Target flow should be determined on the first batch of the day and also following any change to the batch of raw materials (sand / Binder). The procedure below should be adhered to.

Note: The applicator will confirm the target flow at the time of order

 1. Reduce the amount of mixing water stated on the batch sheet by 20% making allowances for free-water within the aggregate avoiding excessive flow.
 2. When making additions of water to attain target flow the quantity should always be less than required to allow for variations in the moisture content of the sand again helping to avoid excessive flow. (e.g. For a requirement of 250mm target a flow of 230mm for batching purposes)
- Refer to the flow diagram on the following page and follow the process relevant to the method of manufacture of the screed.
- On completion of mixing, use a power hose to clean the back blades of the truck mixer drum, taking care not to introduce excess water into the drum. Subsequent batches should be mixed using the optimum quantities of water determined from the first mix of the day with adjustments made as necessary.

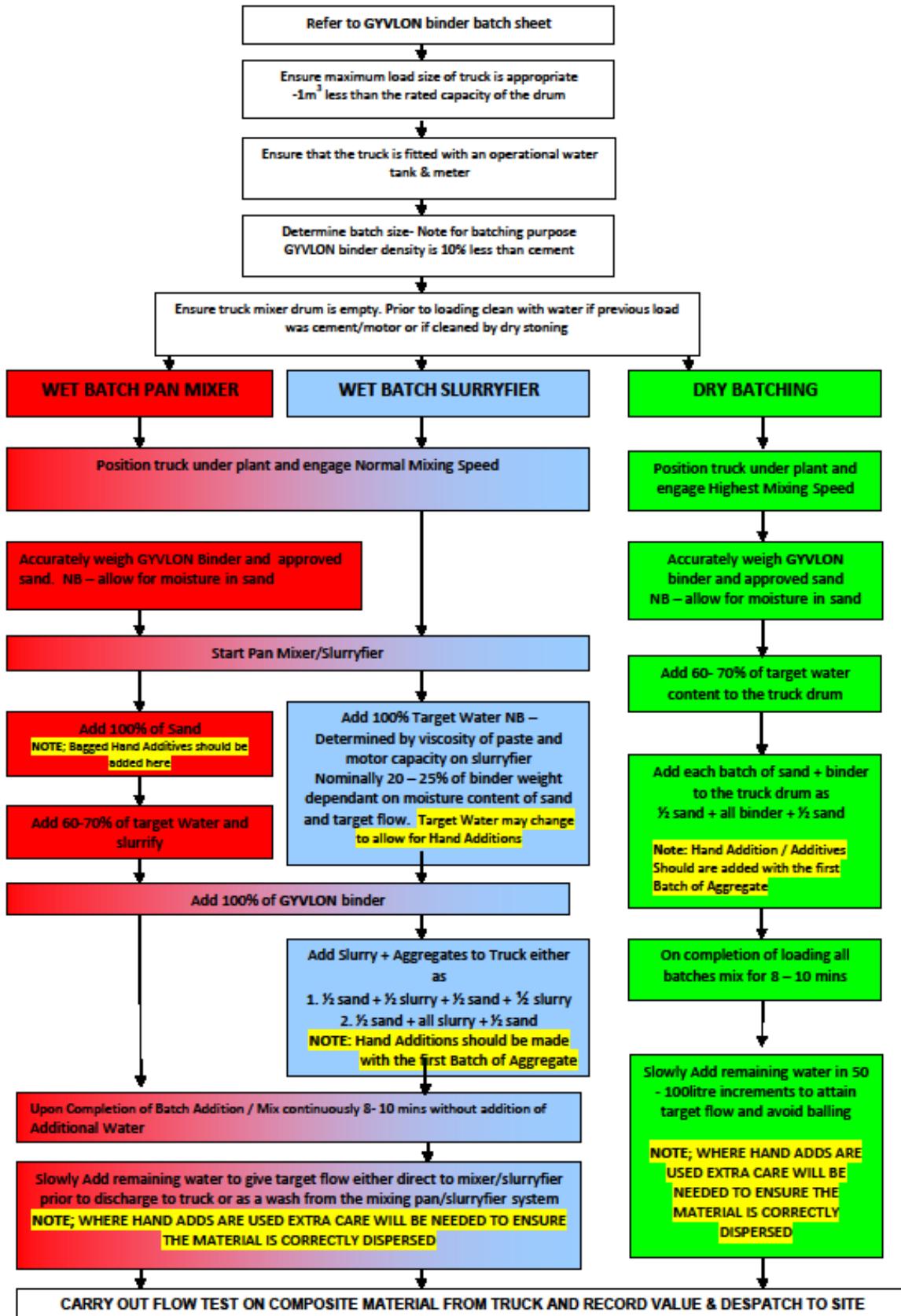
NOTE:

1. WET BATCH PAN MIXER

It is necessary to slurry the water and aggregate mix prior to addition of the Gyvlon Binder to avoid tripping of the pan mixer motor.

2. WET BATCH SLURRYFIER

It is necessary to ensure the correct water addition is made to the slurryfier prior to the addition of Gyvlon binder to avoid tripping out the motor.



3. INSPECTION, DOCUMENTATION AND DELIVERY

(a) Inspection

- Prior to dispatch the flow of the screed must be tested using the approved flow plate and cone apparatus.
- Screed flows measured below the required target can be adjusted by the addition of water at 8 litres/10mm increase/ m³. (e.g. A 5m³ load with a measured flow of 230mm will require an addition of 80litres of water to reach a target flow of 250mm) When testing Thermio+ the above figure will be 50%, therefore 4/m³
- Subsequent to the addition of extra water remix the load for a minimum of 2-4 minutes at high speed and retest. NOTE Repeat this procedure for the first 2/3 loads of a days production thereafter a single water adjustment and test as per the above recommendations should be sufficient.
- For flows in excess of 275mm the load/batch should be remixed for a further two minutes and retested. If still in excess of 275mm, 0.5m³ of dry material, i.e. Gyvlon binder and sand, can be added to the load and remixed thoroughly for five minutes prior to determination of the flow. A power hose should be used to clean the back blades of the drum using the minimum quantity of water however it may be necessary to dispose some of the load to prevent spillage enroute.
- Take a minimum of three 40-x 40-x 160mm sample prisms of Gyvlon based screed per day's production for determination of 28-day compressive strength. Results should be forwarded to Gyvlon Ltd on a minimum of a one monthly basis or as deemed appropriate and should be included on the relevant project reference and batching / discharge details.
- Prior to leaving the plant, ensure each truck mixer water tank is full and the water meter is operational.

(b) Documentation

- On recording the desired flow complete the relevant delivery ticket confirming the measured flow, time of loading etc.
- Enter all relevant details on the normal plant batch record confirming delivery ticket number, truck registration, batch code, added water, target flow, measured flow, time of loading etc.

(c) Delivery

- On route to site the truck drum must be agitated. NB: A faster than normal agitation speed may be required to prevent spillage of product.
- On arrival at site the load must be remixed for at least one minute prior to discharge. Should any delay to discharge occur the material should be continuously mixed by rotation of the drum. Immediately on discharge the screeder must check the flow of the delivered material.
- For flows in excess of the required target remix the load for a further five minutes and retest. If still in excess of the maximum of 275mm permissible, the Screeder may reject the load.
- For flows below the required target, the screeder may request an addition of water which must be recorded on all copies of the delivery ticket.
- Each load shall be fully discharged within three hours of the time of loading.
- A rejected load returned to the plant because of excessive flow may be re-worked and returned to site providing it can be fully discharged within three hours of the original time of loading.

4. WASHING OUT AND DISPOSAL

(a) Washing Out

- Truck mixer drums should be washed out using water, provided they contain only the residue of a completely discharged load, i.e. a small quantity of material adhering to the internal drum wall and blades. Do not use dry stoning.

(b) Disposal

- Dispose of only in a dry disposal area. Under no circumstances shall any quantity of Gyvlon be disposed of in the plant washroom / recycled system.

5. GUIDE TO MIX PROPORTIONS (Kg/m³)

Gyvlon Binder – 800Kg/m³ (Target Flows 260-270mm)

| Material per m ³ | Moisture Content of Sand | | | | | |
|-----------------------------|--------------------------|------|------|------|------|------|
| | Dry | 4% | 5% | 6% | 7% | 8% |
| Gyvlon Binder | 800 | 800 | 800 | 800 | 800 | 800 |
| Sand | 1173 | 1220 | 1232 | 1244 | 1256 | 1267 |
| Water | 280 | 233 | 221 | 210 | 198 | 186 |

Gyvlon Binder - 750 Kg/m³ (Target Flows 260-270mm)

| Material per m ³ | Moisture Content of Sand | | | | | |
|-----------------------------|--------------------------|------|------|------|------|------|
| | Dry | 4% | 5% | 6% | 7% | 8% |
| Gyvlon Binder | 750 | 750 | 750 | 750 | 750 | 750 |
| Sand | 1218 | 1267 | 1279 | 1291 | 1303 | 1315 |
| 51Water | 280 | 231 | 219 | 207 | 195 | 183 |

Gyvlon Binder – 700Kg/m³ (Target Flows 250-260mm)

| Material per m ³ | Moisture Content of Sand | | | | | |
|-----------------------------|--------------------------|------|------|------|------|------|
| | Dry | 4% | 5% | 6% | 7% | 8% |
| Gyvlon Binder | 700 | 700 | 700 | 700 | 700 | 700 |
| Sand | 1263 | 1313 | 1326 | 1338 | 1351 | 1364 |
| Water | 280 | 229 | 217 | 204 | 192 | 179 |

Gyvlon Binder - 650 Kg/m³ (Target Flows 240-250mm)

| Material per m ³ | Moisture Content of Sand | | | | | |
|-----------------------------|--------------------------|------|------|------|------|------|
| | Dry | 4% | 5% | 6% | 7% | 8% |
| Gyvlon Binder | 650 | 650 | 650 | 650 | 650 | 650 |
| Sand | 1307 | 1359 | 1373 | 1386 | 1399 | 1412 |
| 51Water | 280 | 228 | 215 | 202 | 188 | 175 |

NOTE:

- The mix proportions quoted above are based on typical values obtained from the average of a range of nationally available sands and are likely to change dependant on regional variations. As such amendments to mix design may be required to maintain desired yield.
- The water additions given in the above tables may vary depending upon the aggregates utilised and therefore should only be used as a guide to water content.

3.

| Volume of Screed (m ³) | Water addition per 10mm increase in flow Thermio+ | Water addition per 10mm increase in flow Eco / Excelio |
|------------------------------------|---|--|
| 1 | 4 | 8 |
| 2 | 8 | 16 |
| 3 | 12 | 24 |
| 4 | 16 | 32 |
| 5 | 20 | 40 |

6. GUIDE TO FLOW ADJUSTMENTS

Gyvlon Based Screeds – Suggested Flow Range:

| Product | Binder Content | Target Flow (onsite) |
|-------------|--------------------|----------------------|
| Eco (1) | <650KG Binder | 230 - 250mm |
| Eco (2) | >650 <700KG Binder | 240 – 260mm |
| XTR | - | 250 – 270mm |
| SoundBar | - | 250 – 270mm |
| Thermio | - | 250 – 270mm |
| Sky | - | 250 - 270mm |
| Excelio (1) | <25mm Depth | 280 – 300mm |
| Excelio (2) | >25mm | 260 – 280mm |

Note:

1. For long distant travel, or delayed install it may be necessary to adjust the despatch flow by +10-15mm to allow for onsite arrival at the required fluidity
2. In the case of Underfloor heating installation, the install fluidity should always target 240-260mm maximum.
3. Where absorbent RM (manufactured aggregates) are utilised, additional consideration maybe required with regards to point 1.