| **Composite**  **Lab.** | | **Project Protocol** | |  | |
| --- | --- | --- | --- | --- | --- |
| **Name**  **Title**  **Contact email**  **Tel.** | |  | | **Date:** | |
| **Project goal:** | |  | |  | |
|  | | | | | |
| **Project planning guidelines** | | | | | |
| **CAUTION: FOLLOW LAB SAFETY INSTRUCTIONS.**  **CAUTION: FOLLOW MSDS INSTRUCTION**  **Target product description:**    Add product parts & moulds Drawing/Picture) | | | | | |
| Op.  No. | **Operation Description** | | **Safety kit & Tools**  **(As required)** | | **Notes / Remark** |
| 01 | **Consumable material preparation:**      *Use Table 1 to track the process*   |  |  |  | | --- | --- | --- | | **Materials** | **\*Dimension** | **Tick when complete** | |  | …… x …. mm |  | |  | …… x …. mm |  | |  | …… x …. mm |  | |  | …… x …. mm |  | |  |  |  | |  |  |  | |  |  |  |   Table 1 | | * Gloves * Scissors * Masking Tape | |  |
| 02 | **Mould Surface Preparation (claening)** | | * Gloves * Safety glasses * Paper Towel | |  |
| 03 | **Check-out Fibre/fabric:**   * *Log-out material from dry storage.* * *Record material data in Table 2 below.*  |  |  | | --- | --- | | **Data** | **Description** | | Material ID no. |  | | Batch no. (if any) |  |   Table 2 | | * Gloves | |  |
| 04 | **Fabric/Ply Cutting**   * Required fabric ply/layers calculation: * Cut out plies to their required dimensions.   Use Table 3 to track progress.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **No. of**  **Plies** | **Required Dimension** | **Thickness** | **Fibre Direction** | **Tick** | | A1 | …….. x ……. mm | …….mm |  |  | | A2 | …… x …. mm |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  |   Table 3  Write down the total weight of the plies:\_\_\_\_\_\_\_\_\_\_\_\_grams | | * Gloves * Tape measure * Scissors | |  |
| 05 | **Lay-up Fibre/Fabric and consumables**  *Lay-up plies according to Table.*   |  |  |  | | --- | --- | --- | | **Ply** | **Orientation** | **Tick when complete** | | A1 |  |  | | A2 |  |  | |  |  |  | |  |  |  |   Table 5  320 | | * Gloves * Safety Specs * Release film * Sealant tape * Scissors * breather   \_\_\_\_\_\_:\_\_\_\_\_\_am/pm | |  |
| 06 | **Bag-up and vacuum**   * *Proceed to vacuum bag over the entire lay-up.* * *Vacuum ……….. mbar* * Vacuum leak check | | * Nylon vacuum bag material * Sealant tape   \_\_\_\_\_:\_\_\_\_\_\_am/pm | |  |
| 07 | **Matrix Preparation:**  *Take all necessary safety precautions as instruction and MSDS forms*   * *Calculate the weight of resin needed using wetting ratio of …….., fibre to resin.*  |  |  |  | | --- | --- | --- | |  | **Mix ratio by weight** | **Quantity Required** | | **Resin: \*\_\_\_\_\_\_\_\_\_\_** |  |  | | **Hardener: \*\_\_\_\_\_\_\_\_\_** |  |  |  * *Place a clean, empty container on the scale and set zero.* * *Write down the actual weight of the resin and hardener below:*  |  |  |  | | --- | --- | --- | |  | **Mix ratio by weight** | **Quantity Acquired** | | **Resin: \*\_\_\_\_\_\_\_\_\_\_** |  |  | | **Hardener: \*\_\_\_\_\_\_\_\_\_** |  |  |   **Resin mixing procedure:**   * Mixing time ………. Min | | * containers * Spatula * Gloves * Saftey Glasses * Digital Scales   \_\_\_\_\_\_:\_\_\_\_\_\_am/pm | | . |
| 08 | **Curing Process:**   * *Heating resource:*   *Oven*  *Room temperature*   * *Curing preparing:*   *Vacuum:……….*  *Heating Cycle: Temp. …………C , Period: ……………..*  *Cooling and demoulding …………….C* | | Oven  Vacuum unit  Gloves  Protection glasses | |  |
| 09 | **Part Identification**  *Mark on the unaffected side of the part with its part number:*  *“\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” and/or in the centre of the mould*. | | * Marker pen | |  |
| 10 | **Product Inspection**  U*se a micrometre, measure the thicknesses of product*  *Product Weight after curing*  *Required mechanical test* | | Micrometre  Scale  Material test lab | |  |

*You can attach any document/references related to project.*