

Design for Manufacture

M5X01238 | Level 5 | 2016-17

Assignment Title:	Material & Manufacturing Specification Documentation
Project Title:	Träd ljus - (Swedish for Tree light)
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#	Component Name:	Material:	Manufacturing Process:	No. x:
1A	One - A	Aluminium Alloy - 1100 - 2mm	Components 1-A,B,C are made from the same blank, they are stamped from sheet, de-burred and cleaned to remove oil, component 1-A is used for both sides of lamp (top face), component is bonded to component Two.	2
1B	One - B	Aluminium Alloy - 1100 - 2mm	Components 1-A,B,C are made from the same blank, they are stamped from sheet, de-burred and cleaned to remove oil, component 1-B has a single hole stamped in an additional process, component 1-B is used for left side of lamp (bottom face) component is bonded to corresponding half of component Two.	1
1C	One - C	Aluminium Alloy - 1100 - 2mm	Components 1-A,B,C are made from the same blank, they are stamped from sheet, de-burred and cleaned to remove oil, component 1-C has a pair of holes stamped in an additional process, component 1-C is used for right side of lamp (bottom face) component is bonded to corresponding half of component Two.	1
2	Comp-2 Polycarbonate Diffuser/ lense	Polycarbonate - Clear	Component is manufactured via Injection Moulding - Component is used for both sides of the lamp.	2
3	12v Flexible LED Strip IP67	Surmountor Lighting SUR-5050FW60B-12/24v IP68	Component is cut to desired length, Component is soldered to 12v rail, soldered joints are protected with heat shrink to inhibit corrosion, Component comes with self adhesive 3M tape on back, Component is adhered to the inside face of component two with LED's facing outwards.	2
4	2 Pin Chassis Mount Connector IP68	Vetco - VUPN8229	Chassis Mount Connector is inserted into Component 1-C, thread lock is applied to locknut to prevent Connector from coming loose.	1

5	2 Pin Inline Connector IP68	Vetco - VUPN8227	Inline Connector is soldered to power cable coming from 12V Supply. All Soldered connections are protected with heat Shrink to inhibit corrosion.	1
6	Cable Gland IP68	Nylon - Black RS Stock no. 822-9678	Cable Glands are inserted into components 1-B and 1-C, thread lock is applied to locknut to prevent cable gland from coming loose. Cable connecting both sides of lamp passed through cable glands, cable glands tightened to lock cable in place and prevent water ingress.	2
7	Cable	6mm Duel conductor - Rubberised	Cable cut to desired length passed through cable glands and soldered into place, All Soldered connections are protected with heat Shrink to inhibit corrosion.	1
8	12v Power Supply	MeanWell PWM-40-12 Dimmable LED Driver IP67 - 12v 40W	Inline Connector is soldered to power cable coming from 12V Supply. All Soldered connections are protected with heat Shrink to inhibit corrosion.	1
9	M8 Sex Bolt	M8x30 A2 Stainless Button Head - Sex Bolt	Component assembled by user - 5mm Allen Key Required	1
10	M8 Bolt	M8x60 A2 Stainless Button Head	Component assembled by user - 5mm Allen Key Required	1
11	Support Post	20x750mm Aluminium Tube/ Pipe 3mm wall - Anodised	Aluminium tube Cut to desired length and de-burred, Nylon spike and threaded component pressed into corresponding ends of tube. (inserts are interference fit) Support Post assembly hammered into ground by user, Rubber Mallet Required.	1
12	Nylon Spike	Glass reinforced nylon - Black	Component is manufactured via Injection Moulding, Component is pressed into end of Support Post (interference fit)	1
13	Nylon Threaded insert/End	Glass Reinforced nylon - Black	Component is manufactured via Injection Moulding, Component has M8 thread formed in an additional process. Component is pressed into end of Support Post (interference fit)	1