

f2 Light 



**Flow**  
PARAGLIDERS 

## WELCOME

*“Flow is a term used to describe the complete (body-mind-soul) feeling of being so totally engaged in an activity that there is a sense of complete immersion in the experience. Self-conscious thoughts give way to feeling at one with the activity and the environment, and time is no longer an ever-present consideration.”*

*The experience of flying a paraglider is what inspires us. The pure, focused concentration, the feeling of complete immersion with the environment, and the intrinsic pleasure in the activity itself are all sure signs of the flow experience.*

Thank you for flying Flow Paragliders. We recommend that you **read this manual before the first flight**. This manual is designed to help you to quickly familiarize with this beautiful glider.

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## General Information

### *User manual for F2 Light XS, S, M and L.*

This manual offers all the necessary information that will familiarise you with the main characteristics of your **F2 Light**. Although this manual informs you about your glider, it does not offer the instruction requirements necessary for you to be able to pilot this type of wing. Flying instruction can only be taught at a paragliding school recognized by the flying federation of your country. Nevertheless, we remind you that it is important that you carefully read all the contents of the manual for your new F2 Light.

The F2 Light has been **certified as EN B**, having met all the requirements of EN926-2:2013+A1\_2021 + NfL 2-565-20

Please note that any changes to the paraglider will invalidate the result of the certification. Correct usage of the glider is the pilot's responsibility. The manufacturer and distributor do not accept liability for loss or damage as a result of the misuse of this paraglider. It is the pilot's responsibility to comply with legal regulations and to maintain the airworthiness of the aircraft.

User manual version V01.03, dated: 09/2024.

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f2 Light

## PILOT'S PROFILE

The F2 Light is the lightweight version of the Freedom2, offering an flying experience with class-leading performance in the EN-B category. This glider is engineered with advanced technology that's easy to harness, allowing pilots to fully tap into its potential.

Designed as an intermediate glider, the F2 Light is perfect for pilots looking to safely progress and refine their flying skills. Whether you're chasing your first long-distance XC flights or honing your abilities at your local hill, this glider provides the ideal balance of safety and performance.

While the F2 Light is classified as an EN-B glider, it incorporates sophisticated technology derived from our high-performance 2-liners, like the XCRacer2 and Spectra2, into a more accessible package. The F2 Light is a hybrid 3-to-2 liner, combining the best of both worlds. The first two cascades feature a traditional 3-liner setup, while the outermost cascade transitions to a 2-liner configuration. To seamlessly integrate these distinct line layouts, we've designed sophisticated yet user-friendly risers.

These risers enhance the connection between the pilot and the glider, bringing an efficiency and ease of use to the EN-B class that was previously only found in 2-liners. The ergonomic C handles improve pilot control while gliding at speed, allowing adjustments to the Angle of Attack (AoA) without distorting the profile. This results in a smoother, more efficient flight, reducing the need to come off the bar in turbulent conditions.

We've chosen a pitch-stable airfoil for the F2 Light, contributing to a more enjoyable flying experience. This design reduces the likelihood of collapses and oscillations, allowing pilots to focus on reading the conditions and flying with greater confidence. The glider also features new "A-attachment points" that provide better structural integrity and geometrical support to the leading edge, increasing stability, especially at speed and extreme angles of attack. This ultimately leads to a more comfortable and enjoyable flight.

All these design innovations and technologies come together to create a glider that is not only a joy to fly but also delivers exceptional performance within its class. The F2 Light is truly a game-changer in the EN-B category. Special attention has been given to handling, particularly its agility while circling in thermals. At Flow Paragliders, we are thrilled with how the F2 Light performs—it's hands down one of the most delightful gliders we've ever flown.

Please note that any modifications to the paraglider will invalidate the certification results. The correct usage of the glider is the pilot's responsibility. Neither the manufacturer nor the distributor accepts liability for loss or damage resulting from misuse of this paraglider. It is also the pilot's responsibility to comply with legal regulations and ensure the aircraft's airworthiness.



## SPECIFICATIONS

*f2 Light*

|                 | XS                   | S                    | M                    | L                    |
|-----------------|----------------------|----------------------|----------------------|----------------------|
| FLAT AREA       | 22.40 m <sup>2</sup> | 24.00 m <sup>2</sup> | 26.00 m <sup>2</sup> | 27.50 m <sup>2</sup> |
| PROJECTED AREA  | 19.10 m <sup>2</sup> | 20.47 m <sup>2</sup> | 22.12 m <sup>2</sup> | 23.45 m <sup>2</sup> |
| FLAT WINGSPAN   | 11.35 m              | 11.74 m              | 12.23 m              | 12.57 m              |
| PROJECTED SPAN  | 9.21 m               | 9.53 m               | 9.92 m               | 10.20 m              |
| ASPECT RATIO    | 5.75                 | 5.75                 | 5.75                 | 5.75                 |
| PROJECTED AR    | 4.44                 | 4.44                 | 4.44                 | 4.44                 |
| MAX CHORD       | 2.48                 | 2.57                 | 2.68                 | 2.75                 |
| NUMBER OF CELLS | 60                   | 60                   | 60                   | 60                   |
| GLIDER WEIGHT   | 3.7 kgs              | 3.9 kgs              | 4.4 kgs              | 4.8 kgs              |
| TAKE OFF WEIGHT | 60-80 kgs            | 70-95 kgs            | 85-108 kgs           | 105-122 kgs          |
| CERTIFICATION   | LTF/EN B             | LTF/EN B             | LTF/EN B             | LTF/EN B             |



## TAKE-OFF, FLIGHT, AND FLYING TECHNIQUES

F2 Light should be flown as a normal paraglider. However, there are several points listed below which should help you to familiarize with your new paraglider.

F2 Light was designed as a foot launchable solo paraglider and can also be tow-launched. It is the pilot's responsibility to use suitable harness attachments and release mechanisms and to ensure that they are correctly trained on the equipment and system employed.

### *Before Take-off*

- Check that the lines are not damaged or tangled.
- Check that the risers are not damaged or twisted.
- Check that the brake handles are correctly attached and that each line runs freely through the pulley
- Check if the quick links connection between lines to the risers are undamaged and tightened.
- Check if the speed system works freely and that the lines are long enough.
- Check the canopy for rips or tears. Also, inspect the internal structure (ribs, diagonals) and seams.

### *Take-off*

Lay the paraglider out with the leading edge in a horseshoe shape. Hold the A risers close to the quick links and move forward until the lines get stretched. You should now be perfectly centred with your wing. With no wind or light headwind, with lines stretched, The F2 Light inflates rapidly and rises over your head easily. We recommend that you do not pull risers too forward or down, which could cause a collapse of the leading edge, but simply follow them until the glider reaches its angle of flight. It is important that the centre of gravity of your body stays in front of your feet during the inflation of the glider to constantly load the risers. A controlled inflation allows you to check the canopy and lines during the last phase as it comes up a quick check on the brakes helps the wing to overshoot. Depending on the wind conditions or the slope, an adequate use of brakes can help you to take-off quicker.

### ***Landing***

Because of the exceptional glide for this type of glider, high caution is recommended in the stages of approaching and landing. The F2 Light is a reasonably fast glider, and precision on with brakes inputs is required, especially when near the ground. It is therefore recommended to execute the first flights in a familiar environment and under easy conditions. With negative steering, there is more time for the manoeuvres to be performed steadily, which results in reducing the pendulum movements of the paraglider. Reminder: Negative steering involves applying the brakes symmetrically by about 25% of the maximum range to slow the paraglider and a simultaneous turning by means of releasing the outside brake. Speeding up just prior to landing allows a more effective flare and therefore a gentler landing.

### ***Turning***

F2 Light was designed to perform well in turns. Negative steering (see above) on one hand slows the paraglider in certain phases of the flight and on the other hand reduces excessive rolling during turn reversals. It is not only designed to turn (with approx. 25% brake) but also to fly slowly in order to help identify the areas of lift and to keep the paraglider flatter to minimize the sink rate in a turn (with 15% brake). Symmetrical brake-input at 20-25 % enables you to keep your wing under control – to brake further when pitching and to release when the canopy banks up.

## **RAPID DESCEND**

### ***Techniques***

In order to descend, the paraglider must fly away from the areas of lift. In case any problems occur, the following techniques might be used to increase the sink rate.

- ***Spiral Drive:*** The Flow F2 Light is a manoeuvrable wing which responds to any input easily. To initiate the spiral, apply one brake progressively to about 35% and hold it in its position. The speed of rotation will increase progressively as well as the pressure on the brake and the centrifugal force that is perceived. The angle or the speed of rotation can be decreased or increased by releasing or pulling the brake by several centimetres. Once mastered the spiral allows you to descend by more than 10 m/s. Movements which are extremely abrupt, or badly synchronized or very quick initiation of the spiral can result in an asymmetrical collapse or a spin. CAUTION: Spiral Dives should be executed with care. To exit the spiral dive, the kinetic energy must be converted to potential energy by slowly releasing the inside brake.

- **B-line Stall:** Due to the hybrid 3-2 line layout, B-line stall is not an efficient and stable descent manoeuvre on the F2 Light, therefore not recommended.
- **Big Ears:** Big ears is a moderate descent method, reaching -3 or -4 m/s, speed reduces slightly between 3 and 5 km/h and piloting becomes limited. The angle of attack and the wing loading also increases.

Push on the accelerator to restore the wing's horizontal speed and the angle of attack. To activate ears, take the line **amain3** and simultaneously, smoothly pull them outward and downward. The wingtips will fold in. Let go of the lines and the ears will re-inflate automatically. If they do not re-inflate, gently pull on one of the brake lines first and then on the opposite side. For directional control while using the Big Ears, use weight shift.

We recommend the pilot to re-inflate asymmetrically, to avoid unnecessary change on the angle of attack, more so if you are flying near the ground or flying in turbulence.

## PERFORMANCE & USE OF BRAKES

### Use of Brakes

F2 Light best glide is at a trim speed (no brakes) – about 39 km/h. The minimum sink rate is achieved by applying approx. 15% of the brakes. When using more than 30% of the brakes, the aerodynamics and the performance of the glider are likely to deteriorate and the effort to manoeuvre will increase quickly. In case of extremely high brake pressure there is a great risk of a stall. Which occurs at a full brake travel (100% of the brakes) **65cm**. In normal flying conditions the optimal position for the brakes, in terms of performance and safety, is within the top third level of the braking range.

### Use of Speed Bar

Flow F2 Light is equipped with a speed system. The profile of F2 Light has been designed to fly stable through its entire speed range. It is useful to accelerate when flying in strong winds or in extreme descending air. For fitting and positioning the speed bar consult the instructions of the harness manufacturer. Before every flight check that the speed bar works freely and that the lines are long enough to ensure that it is not engaged permanently. Use of the speed bar increases the maximum speed of the paraglider by up to 30% of the trim speed. However, it does reduce the

angle of attack making the likelihood of having collapses higher than at trim speed. We therefore do not advise to use the speed bar near the ground.

### ***Rear Riser Steering – ergonomic handles***

F2 Light can be flown efficiently on rear riser handles. When gliding using the speed bar, the Rear handles can be used to steer the glider and control the pitch to a more efficient glide. The Rear riser handles can also be used to catch deflations and for directional control while gliding at speed.

We recommend using the rear riser handles every time when gliding at speed (when gliding using the speed system).

We do not recommend controlling the glider with the rear riser handles when at trim speed. (only in case of failure of brake lines)

### ***Optimum way to use the Rear riser Steering***

The design intention is for the pilot's hand to fit into the neoprene slot, so that when you pull down toward your chest, you also engage the B risers.

Don't pull the C risers with your fingers, you will only engage the C risers, which can distort the profile. We want an efficient AoA Change when rear risers steering, and it will only work when the hand is slotted on the neoprene sleeve.

### ***ASSYMETRIC & FRONTAL COLLAPSES***

Despite the tests proving F2 Light recovers on its own after collapses, it is a EN B glider therefore active piloting is recommended in real life, in case of an asymmetric or frontal collapse. Active piloting will reduce the loss of altitude and a change of direction.

### ***Asymmetric Collapse***

Despite the great stability of the profile of the F2 Light, heavy turbulent conditions may cause part of the wing to collapse asymmetrically. This usually happens when the pilot has not foreseen this possible reaction of the wing. To prevent the collapse from happening (or the catch the

collapse before it occurs), pull the brake line quickly and firmly corresponding to the affected side of the wing, this will increase the angle of attack and pressurize the wing and most cases, if the reaction is swiftly, the collapse can be prevented.

If the collapse does happen, the F2 Light will not react violently, the turn tendency is very gradual, and it is easily controlled. Most of the time, asymmetric collapses are uneventful, and it will reopen quickly without the pilot's input.

In case it doesn't reopen instantly, the correct procedure is the following: Lean your body towards the side that is still flying to counteract the turn and to maintain a straight course, if necessary, slightly slow down the opened side by applying brake. The collapse will normally open by itself but if that does not happen, pump the side that is closed by using the brakes. Do this with a firm movement. You may have to repeat this operation to provoke the re-opening. Take care not to over-brake on the side that is still flying. When the collapse has been solved; remember "hands-up" to let the wing recover its flying speed.

Another great technique is to bring both brakes down symmetrically, quickly and swiftly, to speed up the reopening of the paraglider, and then raise your hands back up immediately.

### ***Frontal (Symmetric) Collapse***

The profile of the F2 Light has been designed to widely tolerate extreme changes in the angle of attack. A symmetric collapse may occur in heavy turbulent conditions, on entry or exit of strong thermals. Symmetrical collapses usually re-inflate without the glider turning, but you can symmetrically apply the brake with a quick deep pump to quicken the re-inflation. Release the brake lines immediately to recover optimum flight speed.

### ***FULL STALL***

Certain behaviour or weather conditions can cause a full stall. This is a serious deviation from normal flight and can be difficult to manage. If a stall occurs at less than 100 m above the ground, throw your reserve parachute. Main causes of a full stall:

- A poorly timed or an extensive use of brakes when the air speed of the wing is reduced.
- Soaked or heavily drenched leading edge (from rain or a cloud) can result in a stall due to an uneven airflow over the leading edge.

Whatever the cause, a full stall can be either symmetrical or a in a configuration of a spin.

Your first reaction should be to fully raise both hands. This normally allows the glider to return to normal flight but if nothing happens after a few seconds, apply the speed bar to encourage the wing to regain normal flight. Ensure the glider has returned to normal flight (check your airspeed) before using the brakes again.

### ***FLYING WITHOUT BRAKES***

If a brake line or pulley breaks, it is possible to fly the F2 Light using the C-risers (rear riser). The movements must be well controlled as the deformation of the wing, due to the traction on the C-risers, is greater than that produced by using the brakes.

### ***CRAVATS***

If your wingtip gets stuck in the lines, this is called a cravat. Due to the large amount of drag, cravats can turn your wing into a spiral dive very quickly. This can be disorientating and difficult to control if allowed to develop. To recover from a cravat immediately, anticipate the movement of the wing, first stabilise the direction of your wing, by applying opposite (outside) brake and weight shift. Once you have control of the rotation and sink rate, and you are flying in a straight line or gentle turn, you'll have 2 options:

1. Pull the stabilo line, the bright orange line, to clear the cravate.
2. Apply strong deep pumps of the brake on the cravated side whilst weight shifting away from the cravat. It is important to lean away from the cravat otherwise you risk spinning or deepening the spiral. The aim is to empty the air out of the wing tip whilst it is unloaded. Correctly done, this action should clear the cravat. If it is a very large cravat and the above options have not worked, then a full stall is another option. This should not be attempted unless you know what you are doing and have a large amount of altitude. Remember, if the rotation is accelerating and you are unable to re-open the wing or control the decent rate, you should throw your reserve parachute whilst you still have enough altitude.

### ***SIV***

All manoeuvres should be carried out under supervision of experienced paragliding instructors, above water and with a rescue boat. We highly recommend to all pilots.

## ADJUSTMENT OF THE HARNESS

For test flights, the pilots used ABS harnesses with the following set-up:

| SIZE        | Distance from seat board | Distance between hang points |
|-------------|--------------------------|------------------------------|
| F2 LIGHT XS | 43cm                     | 40cm (+-2cm)                 |
| F2 LIGHT S  | 43cm                     | 44cm (+-2cm)                 |
| F2 LIGHT M  | 43cm                     | 46cm (+-2cm)                 |
| F2 LIGHT L  | 43cm                     | 46cm (+-2cm)                 |

We recommend adjusting the harness in a very similar way to the test adjustment. Excessive cross-bracing increases the risk of twisting the risers. A looser setting will result in a tendency to lean towards the collapsed side. Lower hang points reduce the roll-stability of your harness and can slow down the reopening of asymmetric collapses. Higher hang points (+ 2 up to + 4 cm) have no influence on inflight safety and can therefore be tolerated.



## MAINTENANCE & CHECKS

F2 Light is built semi-lightweight long lasting and yet robust ripstop, it is a fragile flying equipment and extra care should be taken. Special attention to its maintenance should also be observed and as any flying aircraft it should be technically periodically checked to ensure proper airworthiness.

### *Maintenance Tips*

The life of your paraglider therefore depends largely on the care which you maintain and use it. To maximize life span of your wing, respect the following rules:

- Avoid dropping the canopy on its top on its leading-edge during inflation or landing.
- Avoid dragging it across the ground when moving it.
- Avoid exposing your glider unnecessarily to sunlight.
- Choose a packing technique that doesn't damage the plastic rods and that doesn't crease the internal structure excessively. A concertina type bag is the ideal bag for folding the F2 Light.
  
- **Always use the protective bag to avoid direct contact with the harnesses and buckles of any friction between the paragliding ripstop and the rucksack.**
- **Never store your paraglider when it is damp.**

If immersed in sea water rinse immediately with fresh water. Do not use any detergents. Dry your paraglider away from direct light in a dry and well-aired place.

Empty any foreign bodies from your paraglider regularly, for example sand, stones or animal or vegetable matter which may eventually decay. Twigs, sand, pebbles, etc may damage the materials and ripstop in successive folds. Organic debris of vegetable and animal origin (insects) can promote mould growth.

### ***Periodic Inspections***

The paraglider has undergone a series of tests during the production process and consequent flight tests before the delivery. It is delivered with a standard brake setting same to the one used during the testing. Periodic Checks & Repairs: for safety reasons, it is recommended that the paraglider is checked after **24 months, or after 100 hours**. Whichever comes first. If anytime, however, there is a change in its behaviour your paraglider should be checked immediately. The person performing the check should inform you about the condition of your glider and if some parts will need to be checked or changed before the next normal service check period.

### ***WARRANTY***

Flow paragliders' **warranty** covers any material defects or any production fault for two years or 250 hours since the date of purchase.

The guarantee does not cover:

- Damage caused by misuse
- Neglecting the regular maintenance
- Overloading or misuse of the glider
- Damage caused by inappropriate landings

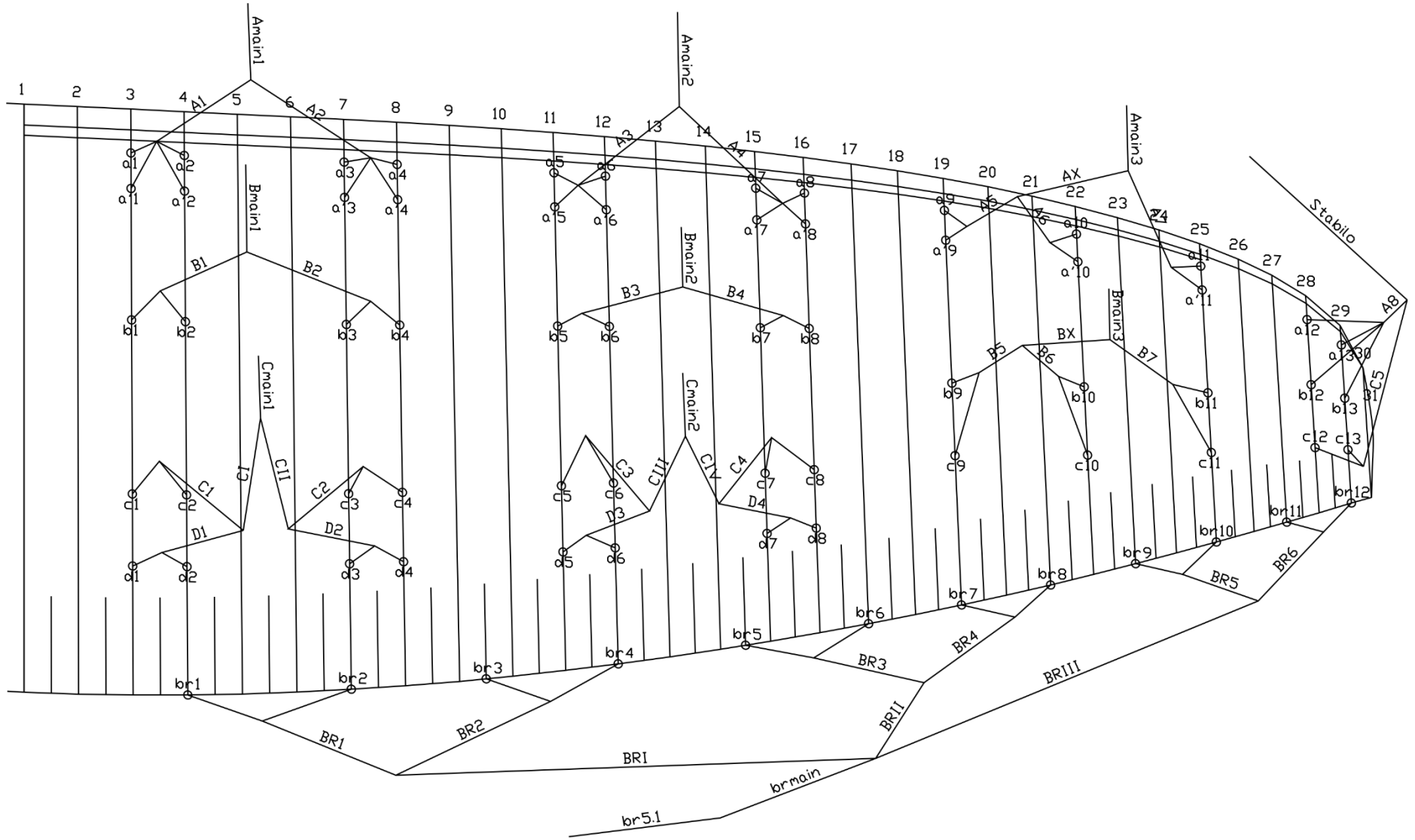
### ***SUMMARY***

Safety is the single most important thing in our sport. We recommend to always be alert of the weather, fly as regularly as you can and ground handle as much as possible. Practicing ground handling will keep your skills alive and will support your quick reactions and feel of the glider especially when conditions at launch aren't perfect or the site is difficult.

Please always respect the weather! Monitor the conditions and the forecast closely and understand which conditions are right for your level of flying or for flying in general. Lots of pilots get hurt due to misjudging weather conditions and we don't want you to be one of them.

We would also like to emphasise respecting our beautiful nature and wildlife is paramount, please look after your flying sites keeping pristine and sustainable. If you need to dispose the wing, please don't dispose of it in the normal household waste but in an environmentally responsible way. If you are unsure, please contact your local council.

# LINE PLAN



RISER DIAGRAM

Size XS, S

| NON-ACCELERATED |       | ACCELERATED |       |
|-----------------|-------|-------------|-------|
| A               | 530mm | A           | 382mm |
| A1              | 530mm | A1          | 382mm |
| B               | 530mm | B           | 434mm |
| C               | 530mm | C           | 530mm |

\*Difference should not be more than +/- 5mm

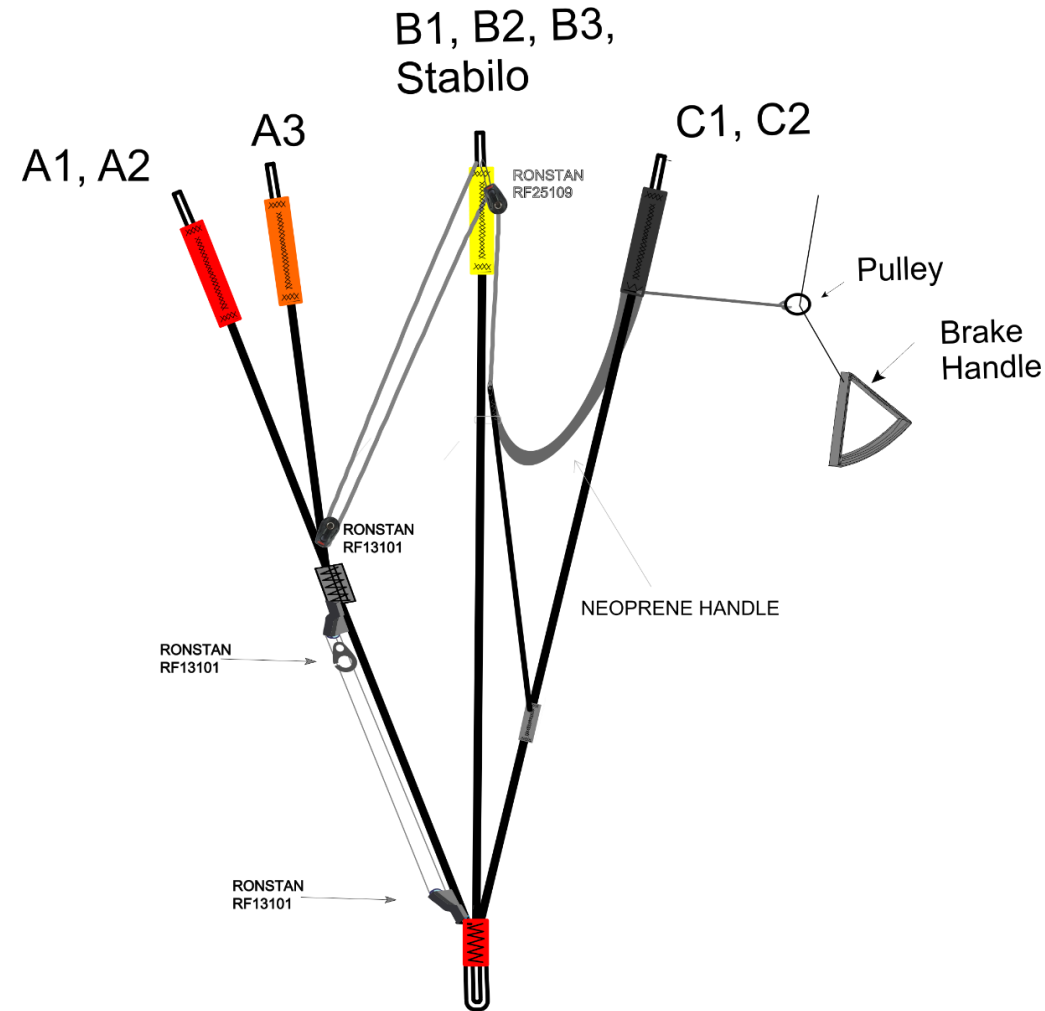
Size M, L

| NON-ACCELERATED |       | ACCELERATED |       |
|-----------------|-------|-------------|-------|
| A               | 530mm | A           | 365mm |
| A1              | 530mm | A1          | 365mm |
| B               | 530mm | B           | 424mm |
| C               | 530mm | C           | 530mm |

\*Difference should not be more than +/- 5mm

There is no use of trimmers in this glider.

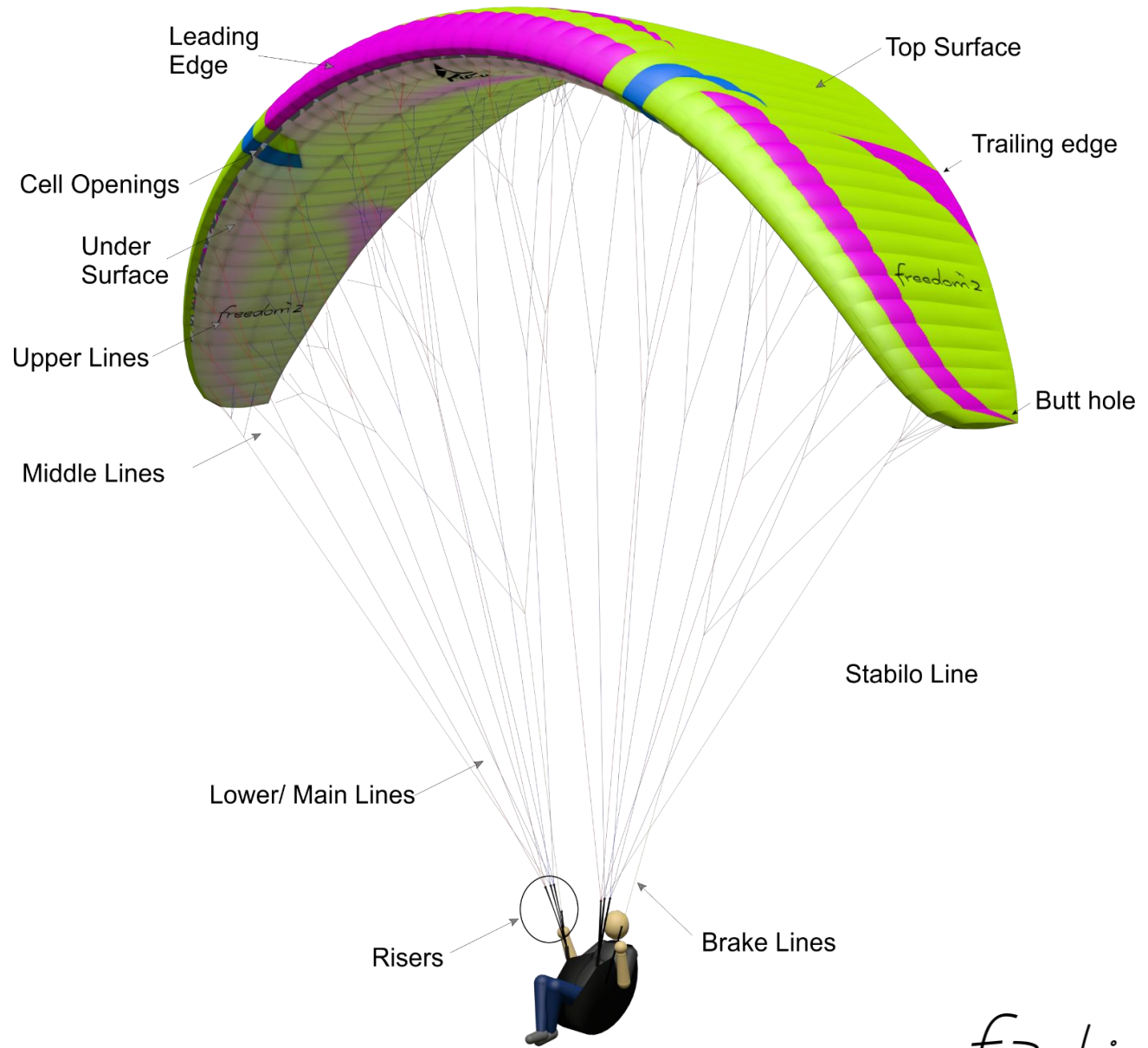
There are any adjustable or removable devices in this glider.



Hangpoint connection to Karabiner / Harness

f2 Light

OVERALL ILLUSTRATION



| CANOPY                       | FABRIC CODE                         | SUPPLIER                    |
|------------------------------|-------------------------------------|-----------------------------|
| Upper surface – Leading Edge | Porcher Skytex 32g                  | Porcher Industries - France |
| Upper surface                | Porcher Skytex 27g                  | Porcher Industries - France |
| Bottom Surface               | Porcher Skytex 27g                  | Porcher Industries - France |
| Internals                    | Porcher Skytex 27g                  | Porcher Industries - France |
| Leading Edge Reinforcement   | 0.9mm NITINOL Rods                  | Porcher Industries - France |
| SUSPENSION LINES             | FABRIC CODE                         | SUPPLIER                    |
| Upper Cascades               | Liros DC 35,DC 60                   | LIROS GmbH - Germany        |
| Middle Cascades              | Edelrid 8000U /130/090/070/050kg    | EDELRID – Germany           |
|                              | Liros PPSLS 65/125                  | LIROS GmbH - Germany        |
| Main Lines                   | Liros PPSLS 180/125/65              | LIROS GmbH - Germany        |
| RISERS                       | FABRIC CODE                         | SUPPLIER                    |
| Shackles                     | Maillon Rapide                      | ANSUNG PRECISION - Korea    |
| Riser Webbing                | 12mm zero stretch polyester webbing | Guth&Wolf GmbH - Germany    |
| Pulleys                      | Pulleys Ronstan ball bearing        | Ronstan - Australia         |

## MATERIALS

In case of any doubts regarding the information in the manual contact your FLOW PARAGLIDERS dealer.

For spare parts or information in how to obtain them get in contact with us directly or with your local dealer.

Flow Paragliders PTY LTD – 7/249 Scottsdale Dr, Robina, QLD 4226, Australia – [info@flowparagliders.com.au](mailto:info@flowparagliders.com.au)

## OVERALL LINE MEASUREMENTS

The overall length (riser lines + mid lines + upper lines) must be checked under 5Kgs (50 N) of tension. The difference between the measured length and the original length should not exceed +/- 10mm. The changes that could appear are a slight shrink on the C's and/or a slight stretch on the A's and B'S The consequences of these changes can include a slower trim speed, difficult inflation etc.

Dimensions given in the user's manual was checked by the testing laboratory

\*Measurements in mm

### F2 LIGHT XS

|    | A    | A'   | B    | C    | D    | Brake |
|----|------|------|------|------|------|-------|
| 1  | 6966 | 6906 | 6836 | 6926 | 7028 | 7091  |
| 2  | 6939 | 6874 | 6808 | 6890 | 6992 | 6924  |
| 3  | 6900 | 6836 | 6772 | 6846 | 6943 | 6755  |
| 4  | 6915 | 6855 | 6791 | 6865 | 6954 | 6822  |
| 5  | 6849 | 6794 | 6723 | 6792 | 6884 | 6588  |
| 6  | 6805 | 6744 | 6678 | 6740 | 6829 | 6489  |
| 7  | 6733 | 6676 | 6616 | 6666 | 6750 | 6411  |
| 8  | 6734 | 6688 | 6624 | 6667 | 6730 | 6468  |
| 9  | 6621 | 6570 | 6525 | 6618 |      | 6346  |
| 10 | 6449 | 6430 | 6372 | 6470 |      | 6297  |
| 11 | 6357 | 6323 | 6312 | 6386 |      | 6282  |
| 12 | 6143 |      | 6188 | 6316 |      | 6366  |
| 13 | 6114 |      | 6203 | 6305 |      |       |

## FREEDOM2 S

|    | A    | A'   | B    | C    | D    | Brake |
|----|------|------|------|------|------|-------|
| 1  | 7202 | 7165 | 7058 | 7148 | 7253 | 7326  |
| 2  | 7164 | 7126 | 7029 | 7110 | 7218 | 7103  |
| 3  | 7126 | 7086 | 6992 | 7062 | 7168 | 6927  |
| 4  | 7146 | 7110 | 7012 | 7078 | 7177 | 6974  |
| 5  | 7064 | 7029 | 6937 | 7004 | 7102 | 6734  |
| 6  | 7019 | 6983 | 6889 | 6949 | 7047 | 6621  |
| 7  | 6948 | 6901 | 6828 | 6872 | 6960 | 6539  |
| 8  | 6951 | 6913 | 6837 | 6873 | 6940 | 6588  |
| 9  | 6816 | 6794 | 6736 | 6830 |      | 6469  |
| 10 | 6652 | 6631 | 6575 | 6678 |      | 6426  |
| 11 | 6554 | 6540 | 6519 | 6592 |      | 6409  |
| 12 | 6342 |      | 6386 | 6508 |      | 6501  |
| 13 | 6312 |      | 6395 | 6495 |      | 7326  |
|    |      |      |      |      |      |       |

## FREEDOM2 M

|    | A    | A'   | B    | C    | D    | Brake |
|----|------|------|------|------|------|-------|
| 1  | 7523 | 7483 | 7384 | 7465 | 7568 | 7647  |
| 2  | 7483 | 7438 | 7356 | 7429 | 7530 | 7405  |
| 3  | 7443 | 7398 | 7309 | 7376 | 7477 | 7230  |
| 4  | 7463 | 7418 | 7334 | 7399 | 7489 | 7270  |
| 5  | 7378 | 7338 | 7242 | 7320 | 7418 | 7032  |
| 6  | 7330 | 7290 | 7196 | 7275 | 7363 | 6907  |
| 7  | 7258 | 7213 | 7128 | 7192 | 7278 | 6815  |
| 8  | 7258 | 7222 | 7138 | 7193 | 7259 | 6858  |
| 9  | 7130 | 7095 | 7015 | 7110 |      | 6727  |
| 10 | 6953 | 6928 | 6850 | 6960 |      | 6677  |
| 11 | 6839 | 6819 | 6780 | 6853 |      | 6645  |
| 12 | 6576 |      | 6627 | 6765 |      | 6731  |
| 13 | 6540 |      | 6632 | 6751 |      |       |

## FREEDOM2 L

|    | A    | B    | C    | D    | E    | Brake |
|----|------|------|------|------|------|-------|
| 1  | 7736 | 7707 | 7588 | 7677 | 7794 | 7907  |
| 2  | 7695 | 7664 | 7558 | 7637 | 7756 | 7656  |
| 3  | 7661 | 7628 | 7518 | 7592 | 7705 | 7483  |
| 4  | 7681 | 7649 | 7542 | 7614 | 7719 | 7520  |
| 5  | 7600 | 7569 | 7470 | 7546 | 7655 | 7286  |
| 6  | 7552 | 7518 | 7422 | 7488 | 7595 | 7161  |
| 7  | 7468 | 7435 | 7349 | 7406 | 7509 | 7065  |
| 8  | 7470 | 7446 | 7356 | 7410 | 7485 | 7100  |
| 9  | 7348 | 7327 | 7247 | 7354 |      | 6962  |
| 10 | 7169 | 7158 | 7077 | 7192 |      | 6893  |
| 11 | 7057 | 7054 | 7004 | 7084 |      | 6875  |
| 12 | 6818 |      | 6863 | 7005 |      | 6959  |
| 13 | 6784 |      | 6874 | 6993 |      |       |
| 14 |      |      |      |      |      |       |

LINE TYPE and individual line lengths (for Freedom2 XS, S, M and L) \*Measurements in mm

Size XS

| Name   | Length | Colour | Line Type | Name    | Length | Colour | Line Type | Name   | Length | Colour | Line Type | Name | Length | Colour    | Line Type |
|--------|--------|--------|-----------|---------|--------|--------|-----------|--------|--------|--------|-----------|------|--------|-----------|-----------|
| a1     | 295    | Red    | DC 60     | b1      | 266    | Blue   | DC 60     | c1     | 281    | Blue   | DC 60     | d1   | 353    | Blue      | DC 35     |
| a2     | 257    | Red    | DC 60     | b2      | 238    | Blue   | DC 60     | c2     | 245    | Blue   | DC 60     | d2   | 317    | Blue      | DC 35     |
| a3     | 281    | Red    | DC 60     | b3      | 242    | Blue   | DC 60     | c3     | 271    | Blue   | DC 60     | d3   | 338    | Blue      | DC 35     |
| a4     | 298    | Red    | DC 60     | b4      | 261    | Blue   | DC 60     | c4     | 290    | Blue   | DC 60     | d4   | 349    | Blue      | DC 35     |
| a5     | 283    | Red    | DC 60     | b5      | 263    | Blue   | DC 60     | c5     | 287    | Blue   | DC 60     | d5   | 309    | Blue      | DC 35     |
| a6     | 239    | Red    | DC 60     | b6      | 218    | Blue   | DC 60     | c6     | 235    | Blue   | DC 60     | d6   | 254    | Blue      | DC 35     |
| a7     | 255    | Red    | DC 60     | b7      | 226    | Blue   | DC 60     | c7     | 241    | Blue   | DC 60     | d7   | 275    | Blue      | DC 35     |
| a8     | 258    | Red    | DC 60     | b8      | 234    | Blue   | DC 60     | c8     | 242    | Blue   | DC 60     | d8   | 255    | Blue      | DC 35     |
| a9     | 244    | Red    | DC 60     | b9      | 565    | Blue   | DC 60     | c9     | 658    | Blue   | DC 35     |      |        |           |           |
| a10    | 229    | Red    | DC 60     | b10     | 472    | Blue   | DC 60     | c10    | 570    | Blue   | DC 35     | D1   | 640    | Blue      | DC 60     |
| a11    | 241    | Red    | DC 60     | b11     | 602    | Blue   | DC 60     | c11    | 676    | Blue   | DC 35     | D2   | 630    | Blue      | DC 60     |
| a12    | 353    | Red    | DC 60     | b12     | 398    | Blue   | DC 60     | c12    | 275    | Blue   | DC 35     | D3   | 660    | Blue      | DC 60     |
| a13    | 324    | Red    | DC 60     | b13     | 412    | Blue   | DC 60     | c13    | 265    | Blue   | DC 35     | D4   | 620    | Blue      | DC 60     |
| a'1    | 260    | Red    | DC 60     | B1      | 2020   | Blue   | 8000U-130 | C1     | 610    | Blue   | 8000U-130 | br1  | 757    | Orange    | DC 60     |
| a'2    | 217    | Red    | DC 60     | B2      | 1980   | Blue   | 8000U-130 | C2     | 600    | Blue   | 8000U-130 | br2  | 525    | Orange    | DC 60     |
| a'3    | 239    | Red    | DC 60     | B3      | 1950   | Blue   | 8000U-130 | C3     | 590    | Blue   | 8000U-130 | br3  | 528    | Orange    | DC 60     |
| a'4    | 261    | Red    | DC 60     | B4      | 1880   | Blue   | 8000U-90  | C4     | 570    | Blue   | 8000U-130 | br4  | 592    | Orange    | DC 60     |
| a'5    | 249    | Red    | DC 60     | B5      | 510    | Blue   | 8000U-90  | C5     | 500    | Blue   | 8000U-50  | br5  | 504    | Orange    | DC 60     |
| a'6    | 203    | Red    | DC 60     | B6      | 450    | Blue   | 8000U-50  |        |        |        | br6       | 404  | Orange | DC 60     |           |
| a'7    | 218    | Red    | DC 60     | B7      | 930    | Blue   | 8000U-50  | CI     | 1360   | Blue   | 8000U-130 | br7  | 387    | Orange    | DC 60     |
| a'8    | 231    | Red    | DC 60     | BX      | 670    | Blue   | 8000U-130 | CII    | 1300   | Blue   | 8000U-130 | br8  | 443    | Orange    | DC 60     |
| a'9    | 211    | Red    | DC 60     |         |        |        |           | CIII   | 1360   | Blue   | 8000U-130 | br9  | 338    | Orange    | DC 60     |
| a'10   | 207    | Red    | DC 60     | Bmain1  | 4040   | Blue   | PPSLS 180 | CIV    | 1300   | Blue   | 8000U-130 | br10 | 289    | Orange    | DC 60     |
| a'11   | 226    | Red    | DC 60     | Bmain2  | 4000   | Blue   | PPSLS 180 |        |        |        | br11      | 264  | Orange | DC 60     |           |
| A1     | 1970   | Red    | 8000U-130 | Bmain3  | 4270   | Blue   | PPSLS 125 | Cmain1 | 4165   | Blue   | PPSLS 180 | br12 | 348    | Orange    | DC 60     |
| A2     | 1910   | Red    | 8000U-130 | Stabilo | 5030   | Orange | PPSLS 65  | Cmain2 | 4045   | Blue   | PPSLS 180 |      |        |           |           |
| A3     | 1890   | Red    | 8000U-130 |         |        |        |           |        |        |        | BR1       | 1410 | Orange | PPSLS 65  |           |
| A4     | 1800   | Red    | 8000U-130 |         |        |        |           |        |        |        | BR2       | 1240 | Orange | PPSLS 65  |           |
| A5     | 750    | Red    | 8000U-90  |         |        |        |           |        |        |        | BR3       | 1140 | Orange | PPSLS 65  |           |
| A6     | 600    | Red    | 8000U-90  |         |        |        |           |        |        |        | BR4       | 1080 | Orange | PPSLS 65  |           |
| A7     | 1420   | Red    | 8000U-90  |         |        |        |           |        |        |        | BR5       | 1030 | Orange | PPSLS 65  |           |
| A8     | 250    | Red    | 8000U-50  |         |        |        |           |        |        |        | BR6       | 1040 | Orange | PPSLS 65  |           |
| AX     | 930    | Red    | 8000U-130 |         |        |        |           |        |        |        |           |      |        |           |           |
| Amain1 | 4198   | Red    | PPSL 275  |         |        |        |           |        |        |        | BR1       | 2460 | Orange | PPSLS 65  |           |
| Amain2 | 4160   | Red    | PPSL 275  |         |        |        |           |        |        |        | BR11      | 2420 | Orange | PPSLS 65  |           |
| Amain3 | 4180   | Red    | PPSLS 180 |         |        |        |           |        |        |        | BR111     | 2453 | Orange | PPSLS 65  |           |
|        |        |        |           |         |        |        |           |        |        |        | brmain    | 1360 | Orange | PPSLS 125 |           |
|        |        |        |           |         |        |        |           |        |        |        | br5.1     | 1115 | Yellow | 10-200    |           |

## Size S

| Name   | Length | Colour | Line Type | Name    | Length | Colour | Line Type | Name   | Length | Colour | Line Type | Name   | Length | Colour | Line Type |
|--------|--------|--------|-----------|---------|--------|--------|-----------|--------|--------|--------|-----------|--------|--------|--------|-----------|
| a1     | 314    | Red    | DC 60     | b1      | 295    | Blue   | DC 60     | c1     | 281    | Blue   | DC 60     | d1     | 332    | Blue   | DC 35     |
| a2     | 275    | Red    | DC 60     | b2      | 265    | Blue   | DC 60     | c2     | 245    | Blue   | DC 60     | d2     | 297    | Blue   | DC 35     |
| a3     | 298    | Red    | DC 60     | b3      | 268    | Blue   | DC 60     | c3     | 279    | Blue   | DC 60     | d3     | 317    | Blue   | DC 35     |
| a4     | 316    | Red    | DC 60     | b4      | 288    | Blue   | DC 60     | c4     | 297    | Blue   | DC 60     | d4     | 327    | Blue   | DC 35     |
| a5     | 312    | Red    | DC 60     | b5      | 293    | Blue   | DC 60     | c5     | 288    | Blue   | DC 60     | d5     | 326    | Blue   | DC 35     |
| a6     | 265    | Red    | DC 60     | b6      | 248    | Blue   | DC 60     | c6     | 234    | Blue   | DC 60     | d6     | 270    | Blue   | DC 35     |
| a7     | 306    | Red    | DC 60     | b7      | 281    | Blue   | DC 60     | c7     | 284    | Blue   | DC 60     | d7     | 306    | Blue   | DC 35     |
| a8     | 309    | Red    | DC 60     | b8      | 287    | Blue   | DC 60     | c8     | 284    | Blue   | DC 60     | d8     | 285    | Blue   | DC 35     |
| a9     | 253    | Red    | DC 60     | b9      | 579    | Blue   | DC 60     | c9     | 673    | Blue   | DC 35     |        |        |        |           |
| a10    | 233    | Red    | DC 60     | b10     | 459    | Blue   | DC 60     | c10    | 561    | Blue   | DC 35     | D1     | 710    | Blue   | DC 60     |
| a11    | 268    | Red    | DC 60     | b11     | 618    | Blue   | DC 60     | c11    | 695    | Blue   | DC 35     | D2     | 700    | Blue   | DC 60     |
| a12    | 376    | Red    | DC 60     | b12     | 416    | Blue   | DC 60     | c12    | 295    | Blue   | DC 35     | D3     | 690    | Blue   | DC 60     |
| a13    | 342    | Red    | DC 60     | b13     | 430    | Blue   | DC 60     | c13    | 287    | Blue   | DC 35     | D4     | 630    | Blue   | DC 60     |
| a'1    | 277    | Red    | DC 60     | B1      | 2070   | Blue   | 8000U-130 | C1     | 650    | Blue   | 8000U-130 | br1    | 795    | Orange | DC 60     |
| a'2    | 233    | Red    | DC 60     | B2      | 2030   | Blue   | 8000U-130 | C2     | 630    | Blue   | 8000U-130 | br2    | 567    | Orange | DC 60     |
| a'3    | 254    | Red    | DC 60     | B3      | 2050   | Blue   | 8000U-130 | C3     | 630    | Blue   | 8000U-130 | br3    | 571    | Orange | DC 60     |
| a'4    | 276    | Red    | DC 60     | B4      | 1950   | Blue   | 8000U-130 | C4     | 560    | Blue   | 8000U-130 | br4    | 620    | Orange | DC 60     |
| a'5    | 274    | Red    | DC 60     | B5      | 530    | Blue   | 8000U-90  | C5     | 500    | Blue   | 8000U-50  | br5    | 537    | Orange | DC 60     |
| a'6    | 225    | Red    | DC 60     | B6      | 490    | Blue   | 8000U-90  |        |        |        |           | br6    | 421    | Orange | DC 60     |
| a'7    | 264    | Red    | DC 60     | B7      | 970    | Blue   | 8000U-90  | CI     | 1410   | Blue   | 8000U-130 | br7    | 398    | Orange | DC 60     |
| a'8    | 275    | Red    | DC 60     | BX      | 700    | Blue   | 8000U-130 | CII    | 1350   | Blue   | 8000U-130 | br8    | 452    | Orange | DC 60     |
| a'9    | 223    | Red    | DC 60     |         |        |        |           | CIII   | 1400   | Blue   | 8000U-130 | br9    | 344    | Orange | DC 60     |
| a'10   | 214    | Red    | DC 60     | Bmain1  | 4200   | Blue   | PPSLS 180 | CIV    | 1340   | Blue   | 8000U-130 | br10   | 303    | Orange | DC 60     |
| a'11   | 254    | Red    | DC 60     | Bmain2  | 4100   | Blue   | PPSLS 180 |        |        |        |           | br11   | 279    | Orange | DC 60     |
| A1     | 2040   | Red    | 8000U-130 | Bmain3  | 4430   | Blue   | PPSLS 125 | Cmain1 | 4320   | Blue   | PPSLS 180 | br12   | 370    | Orange | DC 60     |
| A2     | 1980   | Red    | 8000U-130 | Stabilo | 5220   | Orange | PPSLS 65  | Cmain2 | 4200   | Blue   | PPSLS 180 |        |        |        |           |
| A3     | 1950   | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BR1    | 1460   | Orange | PPSLS 65  |
| A4     | 1830   | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR2    | 1280   | Orange | PPSLS 65  |
| A5     | 780    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR3    | 1170   | Orange | PPSLS 65  |
| A6     | 630    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR4    | 1110   | Orange | PPSLS 65  |
| A7     | 1450   | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR5    | 1070   | Orange | PPSLS 65  |
| A8     | 250    | Red    | 8000U-50  |         |        |        |           |        |        |        |           | BR6    | 1070   | Orange | PPSLS 65  |
| AX     | 960    | Red    | 8000U-130 |         |        |        |           |        |        |        |           |        |        |        |           |
| Amain1 | 4350   | Red    | PPSLS 275 |         |        |        |           |        |        |        |           | BR1    | 2550   | Orange | PPSLS 65  |
| Amain2 | 4310   | Red    | PPSLS 275 |         |        |        |           |        |        |        |           | BR2    | 2500   | Orange | PPSLS 65  |
| Amain3 | 4340   | Red    | PPSLS 180 |         |        |        |           |        |        |        |           | BR3    | 2520   | Orange | PPSLS 65  |
|        |        |        |           |         |        |        |           |        |        |        |           |        |        |        |           |
|        |        |        |           |         |        |        |           |        |        |        |           | brmain | 1410   | Orange | PPSLS 125 |
|        |        |        |           |         |        |        |           |        |        |        |           | br5.1  | 1115   | Yellow | 10-200    |

## Size M

| Name   | Length | Colour | Line type | Name    | Length | Colour | Line type | Name   | Length | Colour | Line type | Name   | Length | Colour | Line type |
|--------|--------|--------|-----------|---------|--------|--------|-----------|--------|--------|--------|-----------|--------|--------|--------|-----------|
| a1     | 331    | Red    | DC 60     | b1      | 294    | Blue   | DC 60     | c1     | 291    | Blue   | DC 60     | d1     | 336    | Blue   | DC 35     |
| a2     | 291    | Red    | DC 60     | b2      | 264    | Blue   | DC 60     | c2     | 253    | Blue   | DC 60     | d2     | 299    | Blue   | DC 35     |
| a3     | 323    | Red    | DC 60     | b3      | 266    | Blue   | DC 60     | c3     | 286    | Blue   | DC 60     | d3     | 327    | Blue   | DC 35     |
| a4     | 342    | Red    | DC 60     | b4      | 287    | Blue   | DC 60     | c4     | 307    | Blue   | DC 60     | d4     | 339    | Blue   | DC 35     |
| a5     | 343    | Red    | DC 60     | b5      | 292    | Blue   | DC 60     | c5     | 299    | Blue   | DC 60     | d5     | 331    | Blue   | DC 35     |
| a6     | 294    | Red    | DC 60     | b6      | 245    | Blue   | DC 60     | c6     | 242    | Blue   | DC 60     | d6     | 272    | Blue   | DC 35     |
| a7     | 308    | Red    | DC 60     | b7      | 257    | Blue   | DC 60     | c7     | 269    | Blue   | DC 60     | d7     | 294    | Blue   | DC 35     |
| a8     | 310    | Red    | DC 60     | b8      | 264    | Blue   | DC 60     | c8     | 269    | Blue   | DC 60     | d8     | 272    | Blue   | DC 35     |
| a9     | 239    | Red    | DC 35     | b9      | 599    | Blue   | DC 35     | c9     | 697    | Blue   | DC 35     | D1     | 750    | Blue   | DC 60     |
| a10    | 230    | Red    | DC 35     | b10     | 493    | Blue   | DC 35     | c10    | 598    | Blue   | DC 35     | D2     | 730    | Blue   | DC 60     |
| a11    | 271    | Red    | DC 35     | b11     | 649    | Blue   | DC 35     | c11    | 729    | Blue   | DC 35     | D3     | 720    | Blue   | DC 60     |
| a12    | 399    | Red    | DC 35     | b12     | 440    | Blue   | DC 35     | c12    | 326    | Blue   | DC 35     | D4     | 680    | Blue   | DC 60     |
| a13    | 364    | Red    | DC 35     | b13     | 454    | Blue   | DC 35     | c13    | 316    | Blue   | DC 35     | br1    | 920    | Orange | DC 60     |
| a'1    | 291    | Red    | DC 60     | B1      | 2180   | Blue   | 8000U-130 | C1     | 680    | Blue   | 8000U-130 | br2    | 675    | Orange | DC 60     |
| a'2    | 245    | Red    | DC 60     | B2      | 2140   | Blue   | 8000U-130 | C2     | 660    | Blue   | 8000U-130 | br3    | 693    | Orange | DC 60     |
| a'3    | 275    | Red    | DC 60     | B3      | 2150   | Blue   | 8000U-130 | C3     | 650    | Blue   | 8000U-130 | br4    | 731    | Orange | DC 60     |
| a'4    | 298    | Red    | DC 60     | B4      | 2070   | Blue   | 8000U-130 | C4     | 610    | Blue   | 8000U-130 | br5    | 584    | Orange | DC 60     |
| a'5    | 301    | Red    | DC 60     | B5      | 560    | Blue   | 8000U-90  | C5     | 500    | Blue   | 8000U-50  | br6    | 461    | Orange | DC 60     |
| a'6    | 250    | Red    | DC 60     | B6      | 500    | Blue   | 8000U-90  | CI     | 1470   | Blue   | 8000U-130 | br7    | 449    | Orange | DC 60     |
| a'7    | 264    | Red    | DC 60     | B7      | 1010   | Blue   | 8000U-90  | CII    | 1410   | Blue   | 8000U-130 | br8    | 490    | Orange | DC 60     |
| a'8    | 276    | Red    | DC 60     | BX      | 730    | Blue   | 8000U-130 | CIII   | 1470   | Blue   | 8000U-130 | br9    | 370    | Orange | DC 60     |
| a'9    | 205    | Red    | DC 35     | Bmain1  | 4380   | Blue   | PPSLS 180 | CIV    | 1400   | Blue   | 8000U-130 | br10   | 319    | Orange | DC 60     |
| a'10   | 207    | Red    | DC 35     | Bmain2  | 4290   | Blue   | PPSLS 180 | Cmain1 | 4510   | Blue   | PPSLS 180 | br11   | 318    | Orange | DC 60     |
| a'11   | 254    | Red    | DC 35     | Bmain3  | 4630   | Blue   | PPSLS 125 | Cmain2 | 4390   | Blue   | PPSLS 180 | br12   | 403    | Orange | DC 60     |
| A1     | 2120   | Red    | 8000U-130 | Stabilo | 5460   | Orange | PPSLS 65  |        |        |        |           | BR1    | 1520   | Orange | PPSLS 65  |
| A2     | 2050   | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BR2    | 1330   | Orange | PPSLS 65  |
| A3     | 2020   | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BR3    | 1290   | Orange | PPSLS 65  |
| A4     | 1930   | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BR4    | 1210   | Orange | PPSLS 65  |
| A5     | 870    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR5    | 1130   | Orange | PPSLS 65  |
| A6     | 700    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR6    | 1100   | Orange | PPSLS 65  |
| A7     | 1530   | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BRI    | 2650   | Orange | PPSLS 65  |
| A8     | 250    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BRII   | 2600   | Orange | PPSLS 65  |
| AX     | 980    | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BRIII  | 2670   | Orange | PPSLS 65  |
| Amain1 | 4550   | Red    | PPSLS 275 |         |        |        |           |        |        |        |           | brmain | 1500   | Orange | PPSLS 125 |
| Amain2 | 4500   | Red    | PPSLS 275 |         |        |        |           |        |        |        |           | br5.1  | 1115   | Yellow | 10-200    |
| Amain3 | 4530   | Red    | PPSLS 180 |         |        |        |           |        |        |        |           |        |        |        |           |

Size L

| Name   | Length | Colour | Line Type | Name    | Length | Colour | Line Type | Name   | Length | Colour | Line Type | Name   | Length | Colour | Line Type |
|--------|--------|--------|-----------|---------|--------|--------|-----------|--------|--------|--------|-----------|--------|--------|--------|-----------|
| a1     | 325    | Red    | DC 60     | b1      | 292    | Blue   | DC 60     | c1     | 290    | Blue   | DC 60     | d1     | 388    | Blue   | DC 35     |
| a2     | 283    | Red    | DC 60     | b2      | 262    | Blue   | DC 60     | c2     | 253    | Blue   | DC 60     | d2     | 350    | Blue   | DC 35     |
| a3     | 291    | Red    | DC 60     | b3      | 263    | Blue   | DC 60     | c3     | 295    | Blue   | DC 60     | d3     | 379    | Blue   | DC 35     |
| a4     | 311    | Red    | DC 60     | b4      | 286    | Blue   | DC 60     | c4     | 317    | Blue   | DC 60     | d4     | 392    | Blue   | DC 35     |
| a5     | 320    | Red    | DC 60     | b5      | 298    | Blue   | DC 60     | c5     | 315    | Blue   | DC 60     | d5     | 343    | Blue   | DC 35     |
| a6     | 271    | Red    | DC 60     | b6      | 249    | Blue   | DC 60     | c6     | 257    | Blue   | DC 60     | d6     | 282    | Blue   | DC 35     |
| a7     | 287    | Red    | DC 60     | b7      | 259    | Blue   | DC 60     | c7     | 272    | Blue   | DC 60     | d7     | 306    | Blue   | DC 35     |
| a8     | 292    | Red    | DC 60     | b8      | 266    | Blue   | DC 60     | c8     | 272    | Blue   | DC 60     | d8     | 283    | Blue   | DC 35     |
| a9     | 234    | Red    | DC 60     | b9      | 618    | Blue   | DC 60     | c9     | 720    | Blue   | DC 35     |        |        |        |           |
| a10    | 221    | Red    | DC 60     | b10     | 486    | Blue   | DC 60     | c10    | 597    | Blue   | DC 35     | D1     | 715    | Blue   | DC 60     |
| a11    | 282    | Red    | DC 60     | b11     | 664    | Blue   | DC 60     | c11    | 747    | Blue   | DC 35     | D2     | 706    | Blue   | DC 60     |
| a12    | 422    | Red    | DC 60     | b12     | 467    | Blue   | DC 60     | c12    | 361    | Blue   | DC 35     | D3     | 739    | Blue   | DC 60     |
| a13    | 388    | Red    | DC 60     | b13     | 479    | Blue   | DC 60     | c13    | 346    | Blue   | DC 35     | D4     | 694    | Blue   | DC 60     |
| a'1    | 299    | Red    | DC 60     | B1      | 2252   | Blue   | 8000U-130 | C1     | 702    | Blue   | 8000U-130 | br1    | 971    | Orange | DC 60     |
| a'2    | 255    | Red    | DC 60     | B2      | 2213   | Blue   | 8000U-130 | C2     | 682    | Blue   | 8000U-130 | br2    | 720    | Orange | DC 60     |
| a'3    | 263    | Red    | DC 60     | B3      | 2219   | Blue   | 8000U-130 | C3     | 665    | Blue   | 8000U-130 | br3    | 744    | Orange | DC 60     |
| a'4    | 286    | Red    | DC 60     | B4      | 2141   | Blue   | 8000U-130 | C4     | 636    | Blue   | 8000U-130 | br4    | 781    | Orange | DC 60     |
| a'5    | 293    | Red    | DC 60     | B5      | 572    | Blue   | 8000U-90  | C5     | 500    | Blue   | 8000U-50  | br5    | 599    | Orange | DC 60     |
| a'6    | 245    | Red    | DC 60     | B6      | 534    | Blue   | 8000U-90  |        |        |        |           | br6    | 473    | Orange | DC 60     |
| a'7    | 258    | Red    | DC 60     | B7      | 1045   | Blue   | 8000U-90  | CI     | 1523   | Blue   | 8000U-130 | br7    | 461    | Orange | DC 60     |
| a'8    | 272    | Red    | DC 60     | BX      | 757    | Blue   | 8000U-130 | CII    | 1453   | Blue   | 8000U-130 | br8    | 498    | Orange | DC 60     |
| a'9    | 213    | Red    | DC 60     |         |        |        |           | CIII   | 1516   | Blue   | 8000U-130 | br9    | 379    | Orange | DC 60     |
| a'10   | 210    | Red    | DC 60     | Bmain1  | 4521   | Blue   | PPSL 180  | CIV    | 1447   | Blue   | 8000U-130 | br10   | 322    | Orange | DC 60     |
| a'11   | 269    | Red    | DC 60     | Bmain2  | 4426   | Blue   | PPSL 180  |        |        |        |           | br11   | 299    | Orange | DC 60     |
| A1     | 2197   | Red    | 8000U-130 | Bmain3  | 4780   | Blue   | PPSL 125  | Cmain1 | 4652   | Blue   | PPSL 180  | br12   | 382    | Orange | DC 60     |
| A2     | 2153   | Red    | 8000U-130 | Stabilo | 5629   | Orange | PPSL 65   | Cmain2 | 4529   | Blue   | PPSL 180  |        |        |        |           |
| A3     | 2107   | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BR1    | 1570   | Orange | PPSL 65   |
| A4     | 2011   | Red    | 8000U-130 |         |        |        |           |        |        |        |           | BR2    | 1374   | Orange | PPSL 65   |
| A5     | 872    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR3    | 1367   | Orange | PPSL 65   |
| A6     | 703    | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR4    | 1280   | Orange | PPSL 65   |
| A7     | 1572   | Red    | 8000U-90  |         |        |        |           |        |        |        |           | BR5    | 1170   | Orange | PPSL 65   |
| A8     | 250    | Red    | 8000U-50  |         |        |        |           |        |        |        |           | BR6    | 1171   | Orange | PPSL 65   |
| AX     | 1040   | Red    | 8000U-130 |         |        |        |           |        |        |        |           |        |        |        |           |
| Amain1 | 4690   | Red    | PPSL 275  |         |        |        |           |        |        |        |           | BRI    | 2731   | Orange | PPSL 65   |
| Amain2 | 4646   | Red    | PPSL 275  |         |        |        |           |        |        |        |           | BRII   | 2681   | Orange | PPSL 65   |
| Amain3 | 4679   | Red    | PPSL 180  |         |        |        |           |        |        |        |           | BRIII  | 2777   | Orange | PPSL 65   |
|        |        |        |           |         |        |        |           |        |        |        |           | brmain | 1555   | Orange | PPSL 125  |
|        |        |        |           |         |        |        |           |        |        |        |           | br5.1  | 1115   | Yellow | 10-200    |



fz Light

