



# METIS 5

**User manual** for METIS 5 (sizes 41 and 44)

Betriebshandbuch für METIS 5 (Tailes 41 und 44)

Návod k obsluze pro METIS 5 (velikosti 41 a 44)

# Thank you, for buying Sky Paragliders products...

We hope you will be satisfied with this glider and wish you many happy flights. We strongly recommend that you read the manual before the first flight. This manual is designed to help you to familiarise yourself with your glider quickly.

Danke, für Ihr Vertrauen das Sie uns durch den Kauf eines Produktes von Sky Paragliders entgegenbringen.

Wir hoffen, dass unser Produkt Sie zufrieden stellt und Ihre Erwartungen erfüllt. Wir empfehlen Ihnen dringend, das Handbuch vor Einbau des Retters zu studieren - damit werden Sie mit dem Retter und dessen Handhabung besser und schneller vertraut.

# DĚKUJEME, že používáte produkty Sky Paragliders.

Doufáme, že budete s tímto výrobkem spokojeni a že splní Vaše očekávání. Důrazně Vám doporučujeme, abyste si manuál velmi důkladně pročetli. Pomůže Vám k rychlejšímu seznámení se s výrobkem.

### Team Sky Paragliders





METIS 5 ENG/DE/CZ

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# METIS 5 ENG

#### INTRODUCTION

Congratulations on joining the Sky family. Your adventure begins here!

Welcome to the world, where every flight is a journey of freedom and discovery. We're thrilled to have you aboard and can't wait for you to experience countless hours of breathtaking flying with your Sky glider.

From the heart of Europe, our team at Sky Paragliders crafts wings that embody precision, passion, and adventure. Each glider is created in our purpose-built, state of the art facility in the Czech Republic just 19 steps away from where our engineers dream, design and perfect the art of flight.

This close contact is incredibly important to us and helps to ensure that our products are of the highest quality possible and with minimal air miles on our raw materials.

Welcome to Sky Paragliders.



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# GENERAL INFORMATION

#### 1.1. User manual for Metis 5

The METIS 5 demonstrate good passive safety, have tolerant flight characteristics and their resistance to departure from the normal flight envelope make them well suited for tandem flight.

- METIS 5 has been certified in Category B, having met all the requirements of regulation EN 926-2:2013, EN 926-1:2015 and LTF NFL II 91/09.
- Total minimum and maximum weights in flight: see the technical data.
- Maximum brake range at maximum take-off load: conforms to EN 926-2/2013.
- This user manual version dated 3rd November 2025.

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. The pilot is responsible for the airworthiness of the aircraft.

The pilot must comply with legal regulations in the country of flight. This guide conforms to requirements specified by EN 926-2:2013 as well as LTF NFL II 91/09 for user manuals.

#### 2. PILOT PROFILE

METIS 5 is a glider for pilots who are training for tandem paragliding in a recognised training school or who already hold a tandem flight license.

The responsibility of flying with a passenger should only be undertaken by pilots with adequate flying experience.

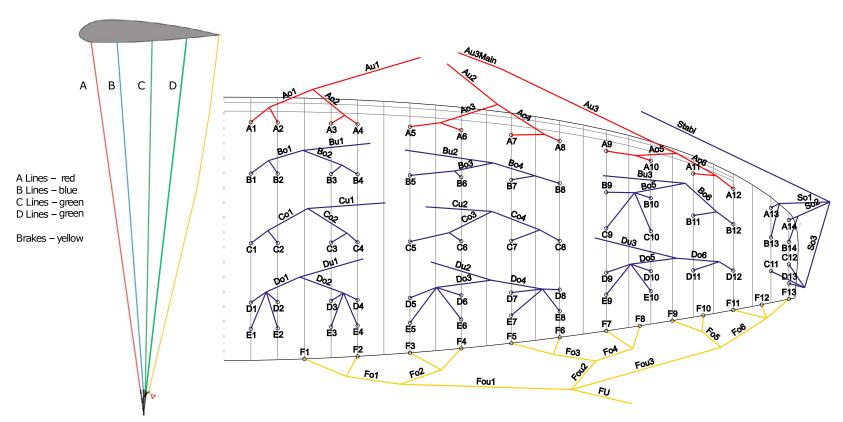
As well as holding a license issued by the pilot's National Federation or Association, the pilot shall also have adequate liability insurance covering all risks to third parties relating to tandem paragliding activities.



## 3. DIMENSIONS, DIAGRAMS AND SPECIFICATIONS

#### 3.1. Cross section

3.2. Line plan

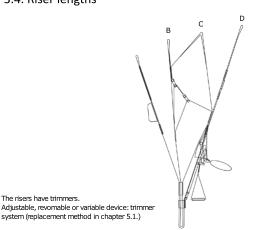


#### 3.3. Technical specifications

| METIS 5  | 41                    | 44            |
|--|-----------------------|---------------|
| Layout surface (m²)  | 41.32                 | 44.05         |
| Layout span (m)  | 14.94                 | 15.43         |
| Layout saspect ratio   | 5.45                  | 5.45          |
| Projected surface (m²)   | 34.46                 | 36.73         |
| Projected span (m)   | 11.67                 | 12.04         |
| Projected aspect ratio   | 3.95                  | 3.95          |
| Number of cells  | 50                    | 50            |
| Weight of the glider (kg)  | 6.95                  | 7.45          |
| Take-off weight range (kg)   | 120-215               | 135-239       |
| Maximum symmetric control travel<br>at maximum weight in flight (cm) | See the certification | on protocols. |
| Certification EN/LTF   | В                     | В             |

#### 3.4. Riser lengths

The risers have trimmers.



| Negative setting  | length  |
|-------------------|---------|
| A                 | 36cm    |
| В                 | 36cm    |
| С                 | 35cm    |
| D                 | 34,5 cm |
| Basic setting     | length  |
| Α                 | 36cm    |
| В                 | 36cm    |
| С                 | 36cm    |
| D                 | 36cm    |
| Released trimmers | length  |
| A                 | 36cm    |
| В                 | 38,7cm  |
| С                 | 42,5 cm |
| D                 | 47 cm   |
| Trimmers lenght   | 11cm    |
|                   |         |

# 4. STAKE-OFF, FLIGHT AND FLYING **TECHNIQUES**

In general, the METIS 5 will behave conventionally to most paragliders. However, listed below are several points which will enable you to familiarise yourself with your new glider more rapidly.

#### 4.1. Pre-flight Checks

- Check the sail for damage to both surfaces, the internal structure (ribs, diagonals) and seams.
- · Check that the lines are not damaged or tangled.
- Check that the guick-links which connect the lines to the risers are undamaged and correctly tightened.
- Check that the risers are not damaged or twisted.
- Lastly, check that the brake handles are correct.

#### 4.2. Take-off

Lay the paraglider out with the leading edge in a horseshoe shape. Hold the A risers close to the guick links and move orward until the lines get stretched. You should now be perfectly centered with your wing. With no wind or light headwind, with lines stretched, METIS 5 inflates rapidly and rises over your head with some dynamic steps. We recommend that you do not pull the risers too far forward or down, which could cause a collapse of the leading edge, but simply follow them until your glider reaches its angle of flight. It is important that the gravity center of your body stays in front of your feet during the rise of the glider to constantly load the risers.

A controlled inflation allows you to check the wings and lines during the last phase as it comes up and thus avoids the need to use brakes.

Depending on the wind conditions or the slope, an adequate use of brakes can help you to take-off more auickly.



Tolerance: +/- 5 mm

#### Towing

The METIS 5 may be tow-launched. It is the pilot's responsibility to use suitable harness, attachments and release mechanism. Tow pilot should be qualified to tow. When towing pilot must be certain that the paraglider is completely over your head before you start. In each case the maximum tow force needs to correspond to the body weight of the pilot and passanger.

#### 4.3. Landing

Because of the exceptional glide, high caution is recommended in the stages of approach and landing. METIS 5 is an agile glider, any action on the brakes may cause significant reactions. 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 maneuvers to be performer steadily, which results in reducing the pendulum movements of the paraglider.

Reminder: Negative steering involves applying the brakes symmetrically by about 30% 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.

#### 4.4. Turning

METIS 5 is designed to turn efficiently and will core thermals without the need for weight-shift piloting. Negative steering (see above) slows the paraglider in level flight and can reduce excessive roll during turn reversals. Your glider is not only designed to turn rapidly (with approx. 30% brake) but also to fly slowly in order to help identify areas of lift. It will also effect a flatter turn (with 15% brake) to minimize sink rate during the turn. Symmetrical brake-input at 20-30 % enables you you to control the glider – to brake further if the canopy pitches forward and to release when if the canopy pitches backwards

#### 4.5. Rapid Descent Techniques

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

#### Big Ears

BIG EARS SYSTEM (BES) is comfortable to reach and to use, it enables the pilot to pull down & lock or unlock & release the ears with great ease.



To perform the big ears pull the BES handle to the front and all the way down, then pull the handles back to lock the lines in the cam cleat. To reopen the ears, push the handles to the front to release the lines from the cam cleat and let the lines slide up, keeping the handles to the front to avoid that the lines will get pinched in the clam cleat on their way up. When BES is applied, the pilot keeps full steering control and can use the trimmers with no restrictions. In case you use the brakes to ease or speed up the reopening, we recommend to apply one brake and open one side of the canopy and only then apply the second brake to reopen the second ear. Applying both brakes at the same time while the glider is flying with a higher angle of attack might induce a stall.

#### Spiral Dive

METIS 5 is a maneuverable wing that 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 experienced. The angle or the speed of rotation can be decreased or increased by releasing or pulling the brake by several centimeters. Once mastered, the piral allows you to descend by more than 10 m/s. Movements which are extremely abrupt or badly synchronized, or a very quick initiation of the spiral can result in an asymmetrical collapse or a spin.

**CAUTION:** A deep spiral is a demanding manoeuvre. The kinetic energy obtained must be reduced by slowly releasing the inside brake and using at least one whole 360 degrees turn to bleed off this energy.

#### **B-line Stall**

B-stall (manoeuvre 4.4.19) has not been achieved within the certification process and should therefore not be performer by the pilots.

#### 4.6. Performance and Use of Brakes

METIS 5's best glide is at trim speed (no brakes) – about 37 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 an impending stall, which occurs at a full brake travel (100% of the brakes). In normal flying conditions the optimal position for the brakes, in terms of performance and safety is within the first 30% of the braking range.



#### 4.7. Using trimmers

Your METIS 5is set up with trim tabs. This system involves the additional pre-flight check of verifying that the trimmers are set symmetrically.

For the following situations we recommend trim setting: Trimmers in zero position

- Steeply sloping launch
- Flight with a heavy passenger (Total Flying Weight 180-220 kg).
- Thermal flight.

For the following situations we recommend trim setting: off/trimmers loose

- · Gently sloping launch.
- Flight with a light passenger (Total Flying Weight 130-160 kg).
- · Transition glides.

#### **↑** WARNING – TRIMMER CONFIGURATION

METIS 5 trimmers can be set to a negative configuration, allowing the glider to fly slower than the normal trim speed.

When trimmers are fully tightened in the negative position, the stall point is significantly closer than in the normal (zero) position.

Always check trimmer settings before flight and avoid full negative configuration at low altitude or during turbulence.

Note: METIS 5 features our magnetic 'Tab tidy' system. When flying with trimmers set at slower speeds, trimmers on, the excess trim tab webbing can now be neatly stowed on the dedicated riser magnet to avoid unnecessary flapping and interference.

# 4.8. Asymmetric or Frontal (Symmetric) Collapse

Despite that tests proved the METIS 5 recovers on its own after collapses, active piloting is recommended in case of an asymmetric or frontal collapse. Active piloting will reduce the loss of altitude and a change of direction.

In case of a frontal (symmetric) collapse:

 Bring both brakes down symmetrically to speed up the reopening of the paraglider, and then raise your hands back up immediately.

In case of an asymmetric collapse:

- Keep the paraglider flying straight by leaning in the opposite direction of the collapse and simultaneously
- applying the brake on the opposite side of the collapse.
   Speed up the reopening of the closed side by a single, positive input on the collapsed side.

#### 4.9. Full Stall

Certain behaviour or weather conditions can bring about a full stall. This is a serious incident that can be difficult to manage. In the case where the stall occurs at less than 100 m above the ground, it is recommended to use 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 (e. g. when coming out of a spiral or speeding up after a B-line stall).
- 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. This process has been related to high levels of porosity in the glider's cloth. Whatever the cause, a full stall can be either symmetrical or a spin.

In both cases the pilot has two possible courses of action:

- If the full stall happens above 100 m it is strongly recommended to execute the stall recovery supposing the pilot is familiar with the process of such an action (e.g. a complete execution of the full stall, stabilization of the wing and lifting hands progressively to come back to a normal flight).
- If the full stall happens below 100 m or if the pilot is unfamiliar with the stall recovery, the reserve should be deployed immediately.

METIS 5

# 4.10. Flying Without Brakes

If a brake line or pulley breaks it is possible to fly the METIS 5 using the D risers (rear risers). The movements must be well controlled as the deformation of the wing when pulling on the D risers is greater than that produced by using the brakes

**Tip:** Practice this way of steering to be prepared in case of a brake failure!

# 4.11. Comments on the Testing Procedures

All maneuvers were carried out over water in a stable air mass with standard temperature, humidity and pressure. They were carried out by professional pilots trained to react to any problem in the most appropriate manner.

Test reports are available on the website: www.sky-cz.com.

#### 4.12. Harness Settings

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

| Size              | Distance from seat board | Distance<br>between<br>hanging points |
|-------------------|--------------------------|---------------------------------------|
| <b>METIS 5 41</b> | 50 cm                    | 54 cm                                 |
| METIS 5 44        | 55 cm                    | 55 cm                                 |

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 (+ 2–4 cm) have no influence on inflight

safety and can therefore be tolerated.

## 5. MAINTENANCE & CHECKS

#### 5.1. Maintenance & Checks

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

- Avoid dropping the canopy on its top surface or on its leading edge during inflation or landing.
- Don't drag it across the ground when moving it.
- Don't expose it unnecessarily to sunlight.
- Choose a folding technique that doesn't damage the leading edge strips and that doesn't crease the internal structure excessively. To maximize the life of your glider we do not recommend the use of stuff sacks: the abrasion of the material will decrease the life expectancy of the fabric – in particular its internal structure.
- Always use the protective bag to avoid direct contact with the harnesses and buckles, and unwanted frictions inside the rucksack.
- Never store your paraglider when it is damp. If immersed in sea water, rinse it thoroughly in 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... damage tissue in successive folds, and organic debris of vegetable or animal origin (insects) can promote mould growth. METIS 5 is fitted with debris release slots at the wing tips. Debris can be shaken from the closed cells through to the wing tip and the release slot opened to remove particles. Check that you reseal the debris release slot when completed.

#### Storage and transport

Store your loosely packed glider in a cool (10-25°C) and dry (<70% humidity) place. Hot car boots or damp basements lead to damaging of the cloth.

A paraglider should always be dry when packed, but this is particularly important after the last flight of the season. But even a completely dry wing should still be stored open in a dry, clean and dark place. If you do not have room for such winter storage we recommend you open all compression straps on the bag as much as possible and leave the bag open so that air can circulate around the packed canopy. Make sure no vermin make their sleeping quarters in your wing, and keep it well distant from solvents and acids. Petrol and other petrochemicals are especially abrasive for nylon and will dissolve the cloth if allowed near. High temperatures in combination with moisture are a particularly volatile mix that will accelerate the hydrolysis process where the fibres and the coating are decomposed.

#### Trim tab replacement

It is common with all trim tab systems that after many hours of flight with frequent trim tab adjustments, part of the webbing can become worn. This can cause the trim tab system to eventually slip from slow flight mode to faster mode when under load. This is normal behaviour of any trim tab system that has endured heavy use over time and suffered wear, such as that by commercial pilots. METIS 5 trim tabs have been especially designed so that this part of the trim tab system can easily be replaced.

#### Replacement method

- We suggest that you replace one side completely first so that you can use the other as a reference. (See photo 1)
- Release the Velcro of the ripstop buckle protector hood and unthread the Velcro tab. (See photo 2)
- Very important: this yellow line that is placed at the end of the trim strap shall be on the same level as the edge of double buckle. (See photo 3)















 Extract the webbing system, complete with Kamet buckle and replace with the new replacement part in the reverse order. (see the photos 4-6)

#### 5.2. Pre-delivery Control

The paraglider has undergone a series of tests during the production process and consequent flight tests before delivery. It is delivered with the same brake setting as used during certification.

Periodic Checks & Repairs: For safety reasons, it is recommended that the paraglider be checked every two years, or after 100 hours and anytime there is a change in its behaviour. The check must be done by the manufacturer or an authorized representative. Before sending the paraglider for an inspection, contact your importer or your dealer.

**CAUTION:** Have your wing additionally checked if you notice damages or a change in flight behaviour.

#### Fixing small rips

Small rips in the sail up to a length of 4 cm can be repaired with adhesive sail tape. Keep an excess length of 3 cm on both ends of the rip and apply the tape to both sides.

#### Spare parts

Your SKY wing consists of many high quality long-life components. When replacing parts, (lines, risers, fabric panels, etc.), only original parts may be used. In addition to the continued airworthiness of your paraglider this is important for your safety as well.

#### 5.3. Guarantee

METIS 5 is guaranteed for two years against any production fault since the date of purchase.

The quarantee does not cover:

- Damage caused by misuse, by neglecting regular maintenance, or if the glider is overloaded or misused.
- Damage caused by inappropriate landings.

#### 6. DISPOSAL

Even the best products have a limited service life, and once your glider reaches this point, it must be disposed of properly. Please make sure your paraglider is disposed of in the correct environmental manner or send it back to Sky Paragliders for correct disposal. In case of any doubts regarding the information in the manual, contact your SKY dealer. If you have any questions regarding the information in this manual, contact your SKY dealer.

#### Sky Paragliders a.s.

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# LINE SPECIFICATIONS | METIS 5 - 41

| NAME       | QUANTITY | MATERIAL                      | LL LENGTH     | WIRE LENGTH            |
|------------|----------|-------------------------------|---------------|------------------------|
| A1         | 2        | PPSL 120 red                  | 62,2          | 888,6                  |
| A2         | 2        | PPSL 120 red                  | 54,9          | 881,3                  |
| AO1        | 2        | PPSL 200 red                  | 179,4         | reinforcement          |
| A3         | 2        | PPSL 120 red                  | 56,0          | 878,6                  |
| A4         | 2        | PPSL 120 red                  | 60,8          | 883,4                  |
| AO2        | 2        | PPSL 200 red                  | 175,6         | reinforcement          |
| AU1        | 2        | TSL 500 red                   | 649,8         |                        |
| A5         | 2        | PPSL 120 red                  | 118,1         | 882,1                  |
| A6         | 2        | PPSL 120 red                  | 105,6         | 869,6                  |
| AO3        | 2        | PPSL 200 red                  | 208,8         | reinforcement          |
| A7         | 2        | PPSL 120 red                  | 104,9         | 864,4                  |
| A8         | 2        | PPSL 120 red                  | 108,1         | 867,6                  |
| AO4        | 2        | PPSL 200 red                  | 204,3         | reinforcement          |
| AU2        | 2        | TSL 500 red                   | 558,0         |                        |
| A9         | 2        | PPSL 120 red                  | 103,5         | 852,7                  |
| A10        | 2        | PPSL 120 red                  | 85,4          | 834,6                  |
| AO5        | 2        | PPSL 200 red                  | 177,1         | reinforcement          |
| A11        | 2        | 7850-080-222                  | 89,9          | 823,2                  |
| A12        | 2        | 7850-080-222                  | 83,4          | 816,7                  |
| AO6        | 2        | PPSL 200 red                  | 161,1         |                        |
| AU3        | 2        | TSL 280 red                   | 533,4         |                        |
| Au3Mair    | 1 2      | TSL 280 red                   | 42,7          |                        |
| B1         | 2        | PPSL 120 blue                 | 61,6          | 879,3                  |
| B2         | 2        | PPSL 120 blue                 | 54,2          | 871,9                  |
| BO1        | 2        | PPSL 200 blue                 | 177,3         | reinforcement          |
| B3         | 2        | PPSL 120 blue                 | 55,4          | 869,2                  |
| B4         | 2        | PPSL 120 blue                 | 60,2          | 874,0                  |
| BO2        | 2        | PPSL 200 blue                 | 173,4         | reinforcement          |
| BU1        | 2        | TSL 500 blue                  | 643,2         |                        |
| B5         | 2        | PPSL 120 blue                 | 116,4         | 872,8                  |
| B6         | 2        | PPSL 120 blue                 | 104,4         | 860,8                  |
| ВО3        | 2        | PPSL 200 blue                 | 206,0         | reinforcement          |
| B7         | 2        | PPSL 120 blue                 | 103,4         | 856,0                  |
| B8         | 2        | PPSL 120 blue                 | 107,2         | 859,8                  |
| BO4        | 2        | PPSL 200 blue                 | 202,2         | reinforcement          |
| BU2        | 2        | TSL 500 blue                  | 553,2         |                        |
| B9         | 2        | 7850-080-372                  | 105,7         | 849,4                  |
| C9         | 2        | 7850-080-372                  | 104,7         | 848,4                  |
| B10        | 2        | 7850-080-372                  | 87,9          | 831,6                  |
| D 10       |          |                               | 0.,,0         |                        |
|            | 2        | 7850-080-372                  | 2Q 7          | 833,4                  |
| C10<br>BO5 | 2        | 7850-080-372<br>PPSL 200 blue | 89,7<br>160.4 | 833,4<br>reinforcement |

| NAME | QUANTITY | MATERIAL                     | LL LENGTH    | WIRE LENGTH    |
|------|----------|------------------------------|--------------|----------------|
| B12  | 2        | 7850-080-372                 | 83,6         | 819,6          |
| BO6  | 2        | PPSL 200 blue                | 152,8        | 015/0          |
| BU3  | 2        | TSL 280 blue                 | 585,8        |                |
| C1   | 2        | PPSL 120 blue                | 61,9         | 883,5          |
| -C2  | 2        | PPSL 120 blue                | 54,5         | 876,1          |
| CO1  | 2        | PPSL 200 blue                | 178.1        | 0,0,1          |
| C3   | 2        | PPSL 120 blue                | 55,6         | 873,3          |
| C4   | 2        | PPSL 120 blue                | 60,5         | 878,2          |
| CO2  | 2        | PPSL 200 blue                | 174,2        | 070,2          |
| CU1  | 2        | TSL 280 green                | 646,1        |                |
| C5   | 2        | PPSL 120 blue                | 117,0        | 877,2          |
| C6   | 2        | PPSL 120 blue                | 105,0        | 865,2          |
| CO3  | 2        | PPSL 200 blue                | 207,1        | 003,2          |
|      | 2        | PPSL 120 blue                | 104,1        | 860,6          |
|      | 2        | PPSL 120 blue                | 107,8        | 864,3          |
| CO4  | 2        | PPSL 200 blue                | 203,4        | 804,3          |
| CU2  | 2        | TSL 280 green                | 555,7        |                |
| D1   | 2        | 7850-080-400                 | 80,7         | 897,8          |
| E1   | 2        | 7850-080-400                 | 91,4         | 908,5          |
| D2   | 2        |                              | •            |                |
| E2   | 2        | 7850-080-400<br>7850-080-400 | 72,8<br>84,1 | 889,9<br>901,2 |
| DO1  | 2        | PPSL 120 green               | 145.5        | 901,2          |
| D3   | 2        | 7850-080-400                 | 78,1         | 886,9          |
| E3   | 2        | 7850-080-400                 | 89,1         | 897,9          |
| D4   | 2        | 7850-080-400                 | 83,4         | 892,2          |
| E4   | 2        | 7850-080-400                 | 93,2         | 902,0          |
| DO2  | 2        | PPSL 120 green               | 137,2        | 902,0          |
| DU1  | 2        | TSL 220 green                | 673,8        |                |
| D5   | 2        | 7850-080-400                 | 101,5        | 891,5          |
| E5   | 2        | 7850-080-400                 | 111,1        | 901,1          |
| D6   | 2        | 7850-080-400                 | 89,1         | 879,1          |
| E6   | 2        | 7850-080-400                 | 98,2         | 888,2          |
| DO3  | 2        | PPSL 120 green               | 227,0        | 666,2          |
| D7   | 2        | 7850-080-400                 | 93,2         | 972.2          |
| E7   | 2        | 7850-080-400                 |              | 873,2          |
|      |          |                              | 102,1        | 882,1          |
| D8   | 2        | 7850-080-400                 | 96,7         | 876,7          |
| E8   | 2        | 7850-080-400                 | 103,5        | 883,5          |
| DO4  | 2        | PPSL 120 green               | 217,0        |                |
| DU2  | 2        | TSL 220 green                | 565,2        |                |
| D9   | 2        | 7850-080-400                 | 89,6         | 859,8          |
| E9   | 2        | 7850-080-400                 | 94,9         | 865,1          |
| D10_ | 2        | 7850-080-400                 | 71,5         | 841,7          |

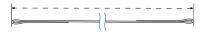
| NAME  | QUANTITY | MATERIAL        | LL LENGTH | WIRE LENGTH |
|-------|----------|-----------------|-----------|-------------|
| E10   | 2        | 7850-080-400    | 76,3      | 846,5       |
| D05   | 2        | PPSL 120 green  | 206,9     |             |
| D11   | 2        | 7850-080-400    | 79,2      | 833,3       |
| D12   | 2        | 7850-080-400    | 65,0      | 819,1       |
| DO6   | 2        | PPSL 120 green  | 190,8     |             |
| DU3   | 2        | TSL 220 green   | 565,5     |             |
| A13   | 2        | 7850-080-222    | 112,9     | 786,0       |
| B13   | 2        | 7850-080-222    | 104,9     | 778,0       |
| SO1   | 2        | PPSL 120 red    | 44,7      |             |
| A14   | 2        | 7850-080-222    | 91,4      | 771,3       |
| B14   | 2        | 7850-080-222    | 86,6      | 766,5       |
| SO2   | 2        | PPSL 120 red    | 51,5      |             |
| _C11_ | 2        | 7850-080-222    | 57,0      | 784,7       |
| C12   | 2        | 7850-080-222    | 44,8      | 772,5       |
| D13   | 2        | 7850-080-222    | 55,5      | 783,2       |
| SO3   | 2        | 7850-080-222    | 99,5      |             |
| Stabi | 2        | PPSL 200 violet | 630,2     |             |
| _F1   | 2        | 7850-080-114    | 115,3     | 1021,2      |
| _F2   | 2        | 7850-080-114    | 77,5      | 983,4       |
| FO1   | 2        | 7850-080-114    | 162,8     |             |
| _F3   | 2        | 7850-080-114    | 110,6     | 943,9       |
| _F4   | 2        | 7850-080-114    | 94,8      | 928,1       |
| FO2   | 2        | 7850-080-114    | 90,2      |             |
| FOU1  | 2        | 7850-100-114    | 318,8     |             |
| _F5   | 2        | 7850-080-114    | 103,9     | 914,7       |
| _F6   | 2        | 7850-080-114    | 74,6      | 885,4       |
| FO3   | 2        | 7850-080-114    | 98,9      |             |
| _F7   | 2        | 7850-080-114    | 65,5      | 869,9       |
| _F8   | 2        | 7850-080-114    | 66,9      | 871,3       |
| FO4   | 2        | 7850-080-114    | 92,5      |             |
| FOU2  | 2        | 7850-100-114    | 287,6     |             |
| F9    | 2        | 7850-080-114    | 62,4      | 858,7       |
| F10   | 2        | 7850-080-114    | 49,8      | 846,1       |
| FO5   | 2        | 7850-080-114    | 109,9     | ,           |
| F11   | 2        | 7850-080-114    | 76,2      | 836,9       |
| F12   | 2        | 7850-080-114    | 68,7      | 829,4       |
| F13   | 2        | 7850-080-114    | 76,7      | 837,4       |
| FO6   | 2        | 7850-080-114    | 74,3      |             |
| FOU3  | 2        | 7850-100-114    | 262,1     |             |
| FU    | 2        | 7850-240-114    | 426,7     |             |
|       |          |                 |           |             |

Wire length



Measurements done according to the EN standard 926-2 [2013 (measured under a tension of 50N) Tolerance: +/- 1 cm





Before checking the wire length, pre-tension the line by the load of 22 kilograms for about 3 seconds per each line.
 Always measure the wire length only when the line is tensioned by 5 kilograms.
 Fou need to cut the new line, the line has to be stabilized by the tension of 22 kilograms and only then could be cut under the tension of 5 kilograms.

## LINE SPECIFICATIONS | METIS 5 - 44

| NAME    | QUANTITY | MATERIAL      | LL LENGTH | WIRE LENGTH   | NAME | QUANTITY | MATERIAL       | LL LENGTH | WIRE LENGTH | NAME  | QUANTITY | MATERIAL        | LL LENGTH                             | WIRE LENGTH |
|---------|----------|---------------|-----------|---------------|------|----------|----------------|-----------|-------------|-------|----------|-----------------|---------------------------------------|-------------|
| A1      | 2        | PPSL 120 red  | 62,2      | 888,6         | B12  | 2        | 7850-080-372   | 83,6      | 819,6       | E10   | 2        | 7850-080-400    | 76,3                                  | 846,5       |
| A2      | 2        | PPSL 120 red  | 54,9      | 881,3         | BO6  | 2        | PPSL 200 blue  | 152,8     |             | D05   | 2        | PPSL 120 green  | 206,9                                 |             |
| AO1     | 2        | PPSL 200 red  | 179,4     | reinforcement | BU3  | 2        | TSL 280 blue   | 585,8     |             | D11   | 2        | 7850-080-400    | 79,2                                  | 833,3       |
| A3      | 2        | PPSL 120 red  | 56,0      | 878,6         | C1   | 2        | PPSL 120 blue  | 61,9      | 883,5       | D12   | 2        | 7850-080-400    | 65,0                                  | 819,1       |
| A4      | 2        | PPSL 120 red  | 60,8      | 883,4         | C2   | 2        | PPSL 120 blue  | 54,5      | 876,1       | DO6   | 2        | PPSL 120 green  | 190,8                                 |             |
| AO2     | 2        | PPSL 200 red  | 175,6     | reinforcement | CO1  | 2        | PPSL 200 blue  | 178,1     |             | DU3   | 2        | TSL 220 green   | 565,5                                 |             |
| AU1     | 2        | TSL 500 red   | 649,8     |               | C3   | 2        | PPSL 120 blue  | 55,6      | 873,3       | A13   | 2        | 7850-080-222    | 112,9                                 | 786,0       |
| A5      | 2        | PPSL 120 red  | 118,1     | 882,1         | C4   | 2        | PPSL 120 blue  | 60,5      | 878,2       | B13   | 2        | 7850-080-222    | 104,9                                 | 778,0       |
| A6      | 2        | PPSL 120 red  | 105,6     | 869,6         | CO2  | 2        | PPSL 200 blue  | 174,2     |             | SO1   | 2        | PPSL 120 red    | 44,7                                  |             |
| AO3     | 2        | PPSL 200 red  | 208,8     | reinforcement | CU1  | 2        | TSL 280 green  | 646,1     |             | A14   | 2        | 7850-080-222    | 91,4                                  | 771,3       |
| A7      | 2        | PPSL 120 red  | 104,9     | 864,4         | C5   | 2        | PPSL 120 blue  | 117,0     | 877,2       | B14   | 2        | 7850-080-222    | 86,6                                  | 766,5       |
| A8      | 2        | PPSL 120 red  | 108,1     | 867,6         | C6   | 2        | PPSL 120 blue  | 105,0     | 865,2       | SO2   | 2        | PPSL 120 red    | 51,5                                  |             |
| AO4     | 2        | PPSL 200 red  | 204,3     | reinforcement | CO3  | 2        | PPSL 200 blue  | 207,1     |             | C11   | 2        | 7850-080-222    | 57,0                                  | 784,7       |
| AU2     | 2        | TSL 500 red   | 558,0     |               | C7   | 2        | PPSL 120 blue  | 104,1     | 860,6       | C12   | 2        | 7850-080-222    | 44,8                                  | 772,5       |
| A9      | 2        | PPSL 120 red  | 103,5     | 852,7         | C8   | 2        | PPSL 120 blue  | 107,8     | 864,3       | D13   | 2        | 7850-080-222    | 55,5                                  | 783,2       |
| A10     | 2        | PPSL 120 red  | 85,4      | 834,6         | CO4  | 2        | PPSL 200 blue  | 203,4     |             | SO3   | 2        | 7850-080-222    | 99,5                                  |             |
| AO5     | 2        | PPSL 200 red  | 177,1     | reinforcement | CU2  | 2        | TSL 280 green  | 555,7     |             | Stabi | 2        | PPSL 200 violet | 630,2                                 |             |
| A11     | 2        | 7850-080-222  | 89,9      | 823,2         | D1   | 2        | 7850-080-400   | 80,7      | 897,8       | F1    | 2        | 7850-080-114    | 115,3                                 | 1021,2      |
| A12     | 2        | 7850-080-222  | 83,4      | 816,7         | E1   | 2        | 7850-080-400   | 91,4      | 908,5       | F2    | 2        | 7850-080-114    | 77,5                                  | 983,4       |
| AO6     | 2        | PPSL 200 red  | 161,1     |               | D2   | 2        | 7850-080-400   | 72,8      | 889,9       | FO1   | 2        | 7850-080-114    | 162,8                                 |             |
| AU3     | 2        | TSL 280 red   | 533,4     |               | E2   | 2        | 7850-080-400   | 84,1      | 901,2       | F3    | 2        | 7850-080-114    | 110,6                                 | 943,9       |
| Au3Maii | n 2      | TSL 280 red   | 42,7      |               | DO1  | 2        | PPSL 120 green | 145,5     |             | F4    | 2        | 7850-080-114    | 94,8                                  | 928,1       |
| B1      | 2        | PPSL 120 blue | 61,6      | 879,3         | D3   | 2        | 7850-080-400   | 78,1      | 886,9       | FO2   | 2        | 7850-080-114    | 90,2                                  |             |
| B2      | 2        | PPSL 120 blue | 54,2      | 871,9         | E3   | 2        | 7850-080-400   | 89,1      | 897,9       | FOU1  | 2        | 7850-100-114    | 318,8                                 |             |
| BO1     | 2        | PPSL 200 blue | 177,3     | reinforcement | D4   | 2        | 7850-080-400   | 83,4      | 892,2       | F5    | 2        | 7850-080-114    | 103,9                                 | 914,7       |
| B3      | 2        | PPSL 120 blue | 55,4      | 869,2         | E4   | 2        | 7850-080-400   | 93,2      | 902,0       | F6    | 2        | 7850-080-114    | 74,6                                  | 885,4       |
| B4      | 2        | PPSL 120 blue | 60,2      | 874,0         | DO2  | 2        | PPSL 120 green | 137,2     |             | FO3   | 2        | 7850-080-114    | 98,9                                  |             |
| BO2     | 2        | PPSL 200 blue | 173,4     | reinforcement | DU1  | 2        | TSL 220 green  | 673,8     |             | F7    | 2        | 7850-080-114    | 65,5                                  | 869,9       |
| BU1     | 2        | TSL 500 blue  | 643,2     |               | D5   | 2        | 7850-080-400   | 101,5     | 891,5       | F8    | 2        | 7850-080-114    | 66,9                                  | 871,3       |
| B5      | 2        | PPSL 120 blue | 116,4     | 872,8         | E5   | 2        | 7850-080-400   | 111,1     | 901,1       | FO4   | 2        | 7850-080-114    | 92,5                                  |             |
| B6      | 2        | PPSL 120 blue | 104,4     | 860,8         | D6   | 2        | 7850-080-400   | 89,1      | 879,1       | FOU2  | 2        | 7850-100-114    | 287,6                                 |             |
| BO3     | 2        | PPSL 200 blue | 206,0     | reinforcement | E6   | 2        | 7850-080-400   | 98,2      | 888,2       | F9    | 2        | 7850-080-114    | 62,4                                  | 858,7       |
| B7      | 2        | PPSL 120 blue | 103,4     | 856,0         | DO3  | 2        | PPSL 120 green | 227,0     |             | F10   | 2        | 7850-080-114    | 49,8                                  | 846,1       |
| B8      | 2        | PPSL 120 blue | 107,2     | 859,8         | D7   | 2        | 7850-080-400   | 93,2      | 873,2       | FO5   | 2        | 7850-080-114    | 109,9                                 |             |
| BO4     | 2        | PPSL 200 blue | 202,2     | reinforcement | E7   | 2        | 7850-080-400   | 102,1     | 882,1       | F11   | 2        | 7850-080-114    | 76,2                                  | 836,9       |
| BU2     | 2        | TSL 500 blue  | 553,2     |               | D8   | 2        | 7850-080-400   | 96,7      | 876,7       | F12   | 2        | 7850-080-114    | 68,7                                  | 829,4       |
| B9      | 2        | 7850-080-372  | 105,7     | 849,4         | E8   | 2        | 7850-080-400   | 103,5     | 883,5       | F13   | 2        | 7850-080-114    | 76,7                                  | 837,4       |
| C9      | 2        | 7850-080-372  | 104,7     | 848,4         | DO4  | 2        | PPSL 120 green | 217,0     |             | FO6   | 2        | 7850-080-114    | 74,3                                  |             |
| B10     | 2        | 7850-080-372  | 87,9      | 831,6         | DU2  | 2        | TSL 220 green  | 565,2     |             | FOU3  | 2        | 7850-100-114    | 262,1                                 |             |
| C10     | 2        | 7850-080-372  | 89,7      | 833,4         | D9   | 2        | 7850-080-400   | 89,6      | 859,8       | FU    | 2        | 7850-240-114    | 426,7                                 |             |
| BO5     | 2        | PPSL 200 blue | 160,4     | reinforcement | E9   | 2        | 7850-080-400   | 94,9      | 865,1       |       |          |                 | · · · · · · · · · · · · · · · · · · · |             |
| B11     | 2        | 7850-080-372  | 86,8      | 822,8         | D10  | 2        | 7850-080-400   | 71,5      | 841,7       |       |          |                 |                                       |             |
|         |          |               |           |               |      |          |                |           |             |       |          |                 |                                       |             |

Wire length



Measurements done according to the EN standard 926-2 [2013 (measured under a tension of 50N) Tolerance: +/- 1 cm





Before checking the wire length, pre-tension the line by the load of 22 kilograms for about 3 seconds per each line.
 Always measure the wire length only when the line is tensioned by 5 kilograms.
 Fyou need to cut the new line, the line has to be stabilized by the tension of 22 kilograms and only then could be cut under the tension of 5 kilograms.



