



Saves Your Energy

Ensto Cold Shrink Solutions

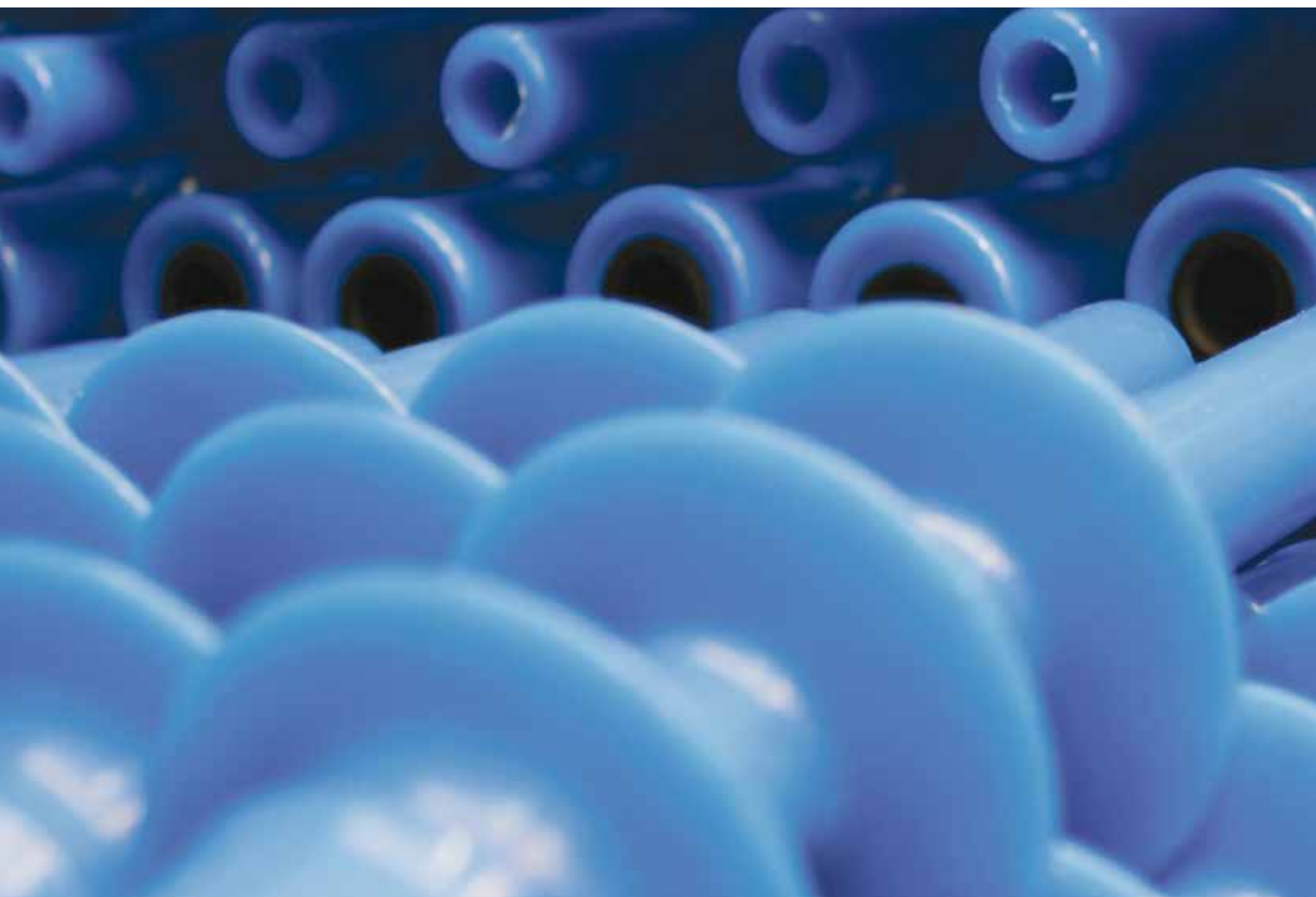
No flame required



Building a secure foundation

Ensto Underground

Both heat and cold shrink accessories



Ensto's product selection for underground cable networks covers both heat- and cold shrink joints and terminations as well as hybrid joints. Our 50 years' thorough experience in building electricity distribution networks guarantees safe and truly installer-friendly products.



The cold shrink accessories are made of highly durable silicon rubber which ensures their reliability and durability. The products are easy to install and after the installation, the need of maintenance is in minimum - we save your time and money.

Wide usage area

Ensto's cold shrink elements are pre-expanded on a spiral in production. This makes the installation work light and easy and you can rely on getting a superb assembly every time. Moreover, the structure enables a wide usage area: with only a few products, area as wide as 10-1000 mm² / 24 and 42 kV can be covered.

Reliable products, uniform installation quality

All the vital parts of our cold shrink products are integrated. For instance in termination, the geometric stress control, anti-tracking tube and rain sheds are all integrated into one piece.

Because of the compact structure, the quality of the installation is always uniform which minimizes the possibility of mistakes.

Also, no special tools are needed in installation. Our cold shrink accessories can be used in demanding environments and they endure large temperature shifts. The products are ready to be used immediately after the installation.

Tested quality

We perform continuous testing with follow-up in production. This includes, for example, material analysis, voltage tests and partial discharge measurements. Our cold shrink products are tested according to standard HD 629.



Top-of-the-art manufacturing

Our modern molding machines, multi-base cavity tool and liquid silicon material enable an effective production. We have factories in Estonia and Italy and product development units in Finland and Italy – together these ensure the innovativeness of our products.

Excellent silicon material

We have chosen silicon material because of its superb features. It endures difficult weather conditions, such as rain, snow, cold and UV rays, as well as dust, pollution and chemicals. The silicon also retains its natural flexibility and constant pressure against the cable in various temperatures.

Manufacturing steps

The manufacturing of cold shrink components can be broken down to phases. For instance, the manufacturing of terminations includes the following steps:

1. Molding of the stress cone
2. Loading the stress cone to cavity tool
3. Over molding
4. Stabilizing molded part in oven
5. Mechanical grinding of termination
6. Spiral manufacturing
7. Loading molded termination to spiral

The quality of each product is ensured in careful quality checks.

Ensto Pro – training for professionals

In addition to our high-quality products, we offer our customers thorough training. Ensto Pro training program contains, for example, information on the construction of an underground cable network and the effective utilization of Ensto's innovative solutions. The training includes both theory based information and practical installation work. Moreover, we train our customers with clear and animated usage instructions. For more information on the training, please contact your local sales representative. www.ensto.com/wheretobuy



We save your energy, time and money:



Easy to install

- Spiral technology makes the products easy to install
- Mistakes are made nearly impossible
- Uniform and superb assembly every time



No fire needed

- Fewer tools
- Less effort
- Silicon material is very durable



Compact and reliable solution

- Integrated structure and less components
- Kits include all needed components



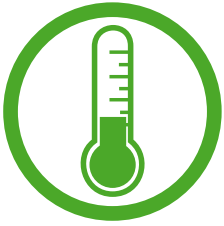
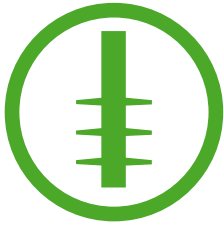
Solid foundation

- We help you to build a solid and secure foundation



Ensto Cold Shrink

- Cold is for quality



We help to build a solid and secure foundation for your electricity network:

- In-house design & manufacturing
- Simple and clear installation instructions
- Top-of-the-art product design
- Complete kits - no additional kits needed
- Tested products

Ensto service is included in the price:

- Extensive Ensto Pro training
 - face-to-face
 - in local language
- Extensive production capacity – reliable deliveries

Cold shrink joints

Two outer jackets - different features

| CJ = total cold shrink solution with silicon outer jacket | CJH = hybrid solution with heat shrink outer jacket |
|--|--|
| <ul style="list-style-type: none"> suitable also when installing in cold good for places where hot work is not allowed | <ul style="list-style-type: none"> durable heat shrink outer jacket needs flame no limitations with warehousing or assembly temperature |

CJH11 hybrid joint kits 1 core XLPE with Cu wire shield with heat shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and copper wire shield. The kit is suitable for single core cables, containing the components for one core.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Conductor size mm ² 42 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | | |
| CJH11.2402C | 6438100307110 | 35-95 | 10-95 | | 13,2 |
| CJH11.2403C | 6438100307066 | 70-240 | 70-240 | | 17,6 |
| CJH11.2404C | 6438100307189 | 240-300 | 185-300 | | 24,2 |
| 42 kV with connectors (Al/Cu) | | | | | |
| CJH11.4202C | 6438100308162 | | | 10-95 | 19,8 |
| CJH11.4203C | 6438100308186 | | | 70-240 | 24,2 |
| CJH11.4204C | 6438100308209 | | | 120-300 | 24,2 |



CJWH hybrid joint kits AHXAMK-W with heat shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and copper wire shield. The kit is suitable for AHXAMK-W cable, containing the components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | |
| CJWH11.2402C | 6438100304447 | 35-95 | 10-95 | 13,2 |
| CJWH11.2403C | 6438100304454 | 95-240 | 70-240 | 17,6 |
| CJWH11.2404C | 6438100304461 | 240-300 | 185-300 | 24,2 |



CJH11-ALS joint kits 1 core XLPE with Al tape shield with heat shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and aluminium tape shield. The kit is suitable for single core cables, containing the components for one core.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | |
| CJH11.2402C-ALS | 6438100307578 | 35-95 | 10-95 | 13,2 |
| CJH11.2403C-ALS | 6438100307592 | 70-240 | 70-240 | 17,6 |
| CJH11.2404C-ALS | 6438100307615 | 240-300 | 185-300 | 24,2 |



CJH33 hybrid joint kits 3 core XLPE with Cu wire shield with heat shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and copper wire shield. The kit is suitable for three core cables, containing the components for all three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | |
| CJH33.2402C | 6438100307462 | 35-95 | 10-95 | 13,2 |
| CJH33.2403C | 6438100307486 | 70-240 | 70-240 | 17,6 |

Cold shrink joints

CJ11 joint kits 1 core XLPE with Cu wire shield with silicon shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and copper wire shield. The kit is suitable for single core cables, containing the components for one core.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | |
| CJ11.2402C | 6438100301095 | 35-95 | 10-95 | 13,2 |
| CJ11.2403C | 6438100300548 | 70-240 | 70-240 | 17,6 |
| CJ11.2404C | 6438100302979 | 240-300 | 185-300 | 24,2 |



CJW11 joint kits AHXAMK-W with silicon shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and copper wire shield. The kit is suitable AHXAMK-W cable, containing the components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | |
| CJW11.2402C | 6438100304386 | 35-95 | 10-95 | 13,2 |
| CJW11.2403C | 6438100304393 | 70-240 | 70-240 | 17,6 |
| CJW11.2404C | 6438100304409 | 240-300 | 185-300 | 24,2 |



CJ11-ALS joint kits 1 core XLPE with Al tape shield with silicon shrink outer sheat

The joint kit is used for jointing of max. 24 kV cables with XLPE insulation and aluminium tape shield. The kit is suitable for single core cables, containing the components for one core.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Min. diameter on the insulation mm |
|-------------------------------|---------------|---|---|---------------------------------------|
| 24 kV with connectors (Al/Cu) | | | | |
| CJ11.2402C-ALS | 6438100301101 | 35-95 | 10-95 | 13,2 |
| CJ11.2403C-ALS | 6438100300531 | 70-240 | 70-240 | 17,6 |
| CJ11.2404C-ALS | 6438100302993 | 240-300 | 185-300 | 24,2 |



Cold shrink terminations

NOTE! When the Ensto termination kits include a shear head cable lug, the types are marked with L (e.g. CIT1.2402L).

CIT1 indoor termination kits 1 core XLPE with Cu wire shield

The termination kit is used for indoor terminating of XLPE insulated medium voltage cables with wire shield. The kit is suitable for single core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|--------------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| CIT1.2402 | 6438100302825 | 35-95 | 10-95 | 265 | 62 | 3 | 13,2 |
| CIT1.2403 | 6438100300494 | 70-240 | 50-240 | 270 | 62 | 3 | 17,6 |
| CIT1.2404 | 6438100302849 | 240-300 | 185-300 | 310 | 62 | 3 | 24,2 |
| CIT1.2405 | 6438100304706 | 400-630 | 400-630 | 370 | 62 | 3 | 29,7 |
| CIT1.2406 | 6438100304713 | 630-1000 | 630-1000 | 440 | 62 | 3 | 35,2 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| CIT1.2402L | 6438100301132 | 35-95 | 10-95 | 265 | 62 | 3 | 13,2 |
| CIT1.2403L | 6438100300524 | 70-240 | 70-240 | 270 | 62 | 3 | 17,6 |
| CIT1.2404L | 6438100302856 | 240-300 | 185-300 | 310 | 62 | 3 | 24,2 |
| CIT1.2405L | 6438100304744 | 400-630 | 400-630 | 370 | 62 | 3 | 29,7 |
| CIT1.2406L | 6438100312329 | 630-1000 | 630-1000 | 440 | 62 | 3 | 35,2 |
| Additional core sheathing kits | | | | | | | |
| STE16 | 6438100306588 | 70-240 | 70-240 | | | | |



| Product code | EAN | Conductor size mm ² 36 / 42 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|------------------------|---------------|--|--------------------------|------------------|--------------------------|---------------------------------------|
| 42 kV without lugs | | | | | | |
| CIT1.4202 | 6438100304768 | 10-95 | 345 | 100 | 3 | 13,2 |
| CIT1.4203 | 6438100300470 | 50-300 | 350 | 100 | 3 | 17,6 |
| CIT1.4204 | 6438100304775 | 120-400 | 390 | 100 | 3 | 24,2 |
| CIT1.4205 | 6438100304782 | 400-630 | 450 | 100 | 3 | 29,7 |
| CIT1.4206 | 6438100304799 | 630-1000 | 520 | 100 | 3 | 35,2 |
| 42kV with lugs (Al/Cu) | | | | | | |
| CIT1.4202L | 6438100304805 | 10-95 | 345 | 100 | 3 | 13,2 |
| CIT1.4203L | 6438100300500 | 70-240 | 350 | 100 | 3 | 17,6 |
| CIT1.4204L | 6438100304812 | 120-300 | 390 | 100 | 3 | 24,2 |
| CIT1.4205L | 6438100304829 | 400-630 | 450 | 100 | 3 | 29,7 |
| CIT1.4206L | 6438100312381 | 630-1000 | 520 | 100 | 3 | 35,2 |



COT1 outdoor termination kits 1 core XLPE with Cu wire shield

The termination kit is used for outdoor terminating of XLPE insulated medium voltage cables with wire shield. The kit is suitable for single core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|--------------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| COT1.2402 | 6438100302887 | 35-95 | 10-95 | 345 | 100 | 3 | 17,6 |
| COT1.2403 | 6438100300425 | 70-240 | 50-240 | 350 | 100 | 3 | 24,2 |
| COT1.2404 | 6438100302900 | 240-300 | 185-300 | 390 | 100 | 3 | 29,7 |
| COT1.2405 | 6438100304720 | 400-630 | 400-630 | 450 | 100 | 3 | 29,7 |
| COT1.2406 | 6438100304737 | 630-1000 | 630-1000 | 520 | 100 | 3 | 35,2 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| COT1.2402L | 6438100301118 | 35-95 | 10-95 | 345 | 100 | 3 | 13,2 |
| COT1.2403L | 6438100300463 | 70-240 | 70-240 | 350 | 100 | 3 | 17,6 |
| COT1.2404L | 6438100302917 | 240-300 | 185-300 | 390 | 100 | 3 | 24,2 |
| COT1.2405L | 6438100304751 | 400-630 | 400-630 | 450 | 100 | 3 | 29,7 |
| COT1.2406L | 6438100312336 | 630-1000 | 630-1000 | 520 | 100 | 3 | 35,2 |
| Additional core sheathing kits | | | | | | | |
| STE16 | 6438100306588 | 70-240 | 70-240 | | | | |



| Product code | EAN | Conductor size mm ² 36-42 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|--|--------------------------|------------------|--------------------------|---------------------------------------|
| 42 kV without lugs | | | | | | |
| COT1.4202 | 6438100304836 | 10-95 | 610 | 100 | 6 | 17,6 |
| COT1.4203 | 6438100300449 | 50-300 | 620 | 100 | 6 | 24,2 |
| COT1.4204 | 6438100304843 | 120-400 | 800 | 100 | 6 | 29,7 |
| COT1.4205 | 6438100304850 | 400-630 | 800 | 100 | 6 | 29,7 |
| COT1.4206 | 6438100304867 | 630-1000 | 800 | 100 | 6 | 35,2 |
| 42 kV with lugs (Al/Cu) | | | | | | |
| COT1.4202L | 6438100304874 | 10-95 | 610 | 100 | 6 | 13,2 |
| COT1.4203L | 6438100300432 | 70-240 | 620 | 100 | 6 | 17,6 |
| COT1.4204L | 6438100304881 | 120-300 | 800 | 100 | 6 | 24,2 |
| COT1.4205L | 6438100304898 | 400-630 | 800 | 100 | 6 | 29,7 |
| COT1.4206L | 6438100312398 | 630-1000 | 800 | 100 | 6 | 35,2 |



Cold shrink terminations

CIT1-ALS indoor termination kits 1 core XLPE with Al tape shield

The termination kit is used for indoor terminating of max. 24 kV cables with XLPE insulation and aluminium tape shield. The kit is suitable for single core cables, containing the components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| CIT1.2402-ALS | 6438100302832 | 35-95 | 10-95 | 265 | 62 | 3 | 13,2 |
| CIT1.2403-ALS | 6438100300487 | 70-240 | 50-240 | 270 | 62 | 3 | 17,6 |
| CIT1.2404-ALS | 6438100302863 | 240-400 | 185-300 | 310 | 62 | 3 | 24,2 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| CIT1.2402L-ALS | 6438100301149 | 35-95 | 10-95 | 265 | 62 | 3 | 13,2 |
| CIT1.2403L-ALS | 6438100300517 | 70-240 | 70-240 | 270 | 62 | 3 | 17,6 |
| CIT1.2404L-ALS | 6438100302870 | 240-300 | 185-300 | 310 | 62 | 3 | 24,2 |



COT1-ALS outdoor termination kits 1 core XLPE with Al tape shield

The termination kit is used for outdoor terminating of XLPE insulated medium voltage cables with aluminium tape shield shield. The kit is suitable for single core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| COT1.2402-ALS | 6438100302894 | 35-95 | 10-95 | 345 | 100 | 3 | 13,2 |
| COT1.2403-ALS | 6438100300418 | 70-240 | 50-240 | 350 | 100 | 3 | 17,6 |
| COT1.2404-ALS | 6438100302924 | 240-300 | 185-300 | 390 | 100 | 3 | 24,2 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| COT1.2402L-ALS | 6438100301125 | 35-95 | 10-95 | 345 | 100 | 3 | 13,2 |
| COT1.2403L-ALS | 6438100300456 | 70-240 | 70-240 | 350 | 100 | 3 | 17,6 |
| COT1.2404L-ALS | 6438100302931 | 240-300 | 185-300 | 390 | 100 | 3 | 24,2 |



CITW indoor terminations AHXAMK-W

The termination kit is used for indoor terminating of XLPE insulated medium voltage cables with aluminium tape shield (AHXAMK-W). The kit is suitable for single core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| CITW1.2402 | 6438100304157 | 35-95 | 10-95 | 265 | 62 | 3 | 13,2 |
| CITW1.2403 | 6438100304164 | 70-240 | 50-240 | 270 | 62 | 3 | 17,6 |
| CITW1.2404 | 6438100304171 | 240-300 | 185-300 | 310 | 62 | 3 | 24,2 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| CITW1.2402L | 6438100304225 | 35-95 | 10-95 | 265 | 62 | 3 | 13,2 |
| CITW1.2403L | 6438100304232 | 70-240 | 70-240 | 270 | 62 | 3 | 17,6 |
| CITW1.2404L | 6438100304249 | 240-300 | 185-300 | 310 | 62 | 3 | 24,2 |



COTW outdoor terminations AHXAMK-W

The termination kit is used for outdoor terminating of XLPE insulated medium voltage cables with aluminium tape shield (AHXAMK-W). The kit is suitable for single core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| COTW1.2402 | 6438100304294 | 35-95 | 10-95 | 345 | 100 | 3 | 13,2 |
| COTW1.2403 | 6438100304300 | 70-240 | 50-240 | 350 | 100 | 3 | 17,6 |
| COTW1.2404 | 6438100304317 | 240-300 | 185-300 | 390 | 100 | 3 | 24,2 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| COTW1.2402L | 6438100304324 | 35-95 | 10-95 | 345 | 100 | 3 | 13,2 |
| COTW1.2403L | 6438100304331 | 70-240 | 70-240 | 350 | 100 | 3 | 17,6 |
| COTW1.2404L | 6438100304348 | 240-300 | 185-300 | 390 | 100 | 3 | 24,2 |



Cold shrink terminations

CITH3 indoor termination kits 3 core XLPE

The termination kit is used for indoor terminating of XLPE insulated medium voltage cables with wire shield. The kit is suitable for three core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| CITH3.2402 | 6438100307516 | 35-95 | 10-95 | 500-1100 | 62 | 3 | 16 |
| CITH3.2403 | 6438100307073 | 70-240 | 70-240 | 500-1100 | 62 | 3 | 20 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| CITH3.2402L | 6438100307523 | 35-95 | 10-95 | 500-1100 | 62 | 3 | 16 |
| CITH3.2403L | 6438100307080 | 70-240 | 70-240 | 500-1100 | 62 | 3 | 20 |



COTH3 outdoor termination kits 3 core XLPE

The termination kit is used for outdoor terminating of XLPE insulated medium voltage cables with wire shield. The kit is suitable for three core cables, containing components for three cores.

| Product code | EAN | Conductor size mm ² 12 kV | Conductor size mm ² 24 kV | Termination length mm | Shed diameter mm | No of sheds per phase | Min. diameter on the insulation mm |
|-------------------------|---------------|---|---|--------------------------|------------------|--------------------------|---------------------------------------|
| 24 kV without lugs | | | | | | | |
| COTH3.2402 | 6438100307530 | 35-95 | 10-95 | 500-1100 | 100 | 3 | 16 |
| COTH3.2403 | 6438100307097 | 70-240 | 50-240 | 500-1100 | 100 | 3 | 20 |
| 24 kV with lugs (Al/Cu) | | | | | | | |
| COTH3.2402L | 6438100307547 | 35-95 | 10-95 | 500-1100 | 100 | 3 | 16 |
| COTH3.2403L | 6438100307103 | 70-240 | 70-240 | 500-1100 | 100 | 3 | 20 |





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