



KELine®

# Súbor certifikátov

z nezávislých skúšobných laboratórií  
pre štruktúrované kabeláže KELine®



## KELine® komponenty Cat.6<sub>A</sub>, Cat.7


- |  |                  |
|--|------------------|
| • Inštačný kábel, Category 6 <sub>A</sub> , 550 MHz, (B2 <sub>ca</sub> ) | FORCE Technology |
| • Inštačný kábel, Category 7, 1000 MHz                                   | FORCE Technology |
| • Zásuvkový modul, patch panely, Category 6 <sub>A</sub>                 | FORCE Technology |
| • Zásuvkový modul HD, Category 6 <sub>A</sub>                            | GHMT             |
| • Patch káble, Category 6 <sub>A</sub>                                   | FORCE Technology |

# Postup pri vyhodnocovaní certifikátu

Skontrolujte na internetovej stránke skúšobne\*, ktorá vydala certifikát

**či sa nejedná o falzifikát alebo, či nie je upravený pomocou softvéru.**

Na certifikáte skontrolujte:



## Compliance Statement

**No. 2019-154**

**Data communication cable, Category 6A**

**Company**  
KRUGEL EXIM spol s r.o.  
Rybničná 38/H  
831 06 Bratislava  
Slovakia

**Product description**  
Screened cable (U/FTP) characterised up to 500 MHz  
Horizontal floor wiring cable, 100 Ω  
4 individually screened twisted pairs  
Flame retardant, halogen free

**Product identification**  
KELine 10Giga 550MHz, STP 4x2xAWG23 Cat.6A, LSOH  
Part number: KE550HS23/1E

**Generic cabling and cabling components standards - Category 6A cable requirements**

- ISO/IEC 11801-1:2017 (Ed. 1.0) / ISO/IEC 11801-2:2017 (Ed. 1.0)
- IEC 61156-5:2012 (Ed. 2.1)
- EN 50173-1:2018 / EN 50173-2:2018
- EN 50288-10-1:2012
- TIA-568.2-D:2018

**Standards for flammability, halogen acidity, and smoke performance**

- IEC 60332-1-1:2015 (Ed. 1.1) / IEC 60332-1-2:2015 (Ed. 1.1)
- IEC 60754-2:2011 (Ed. 2.0)
- IEC 61034-1:2013 (Ed. 3.1) / IEC 61034-2:2013 (Ed. 3.1)

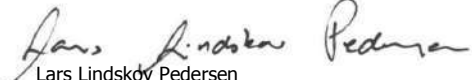
**Technical report**  
T923889-01, DANAK-19/19989

**EC Cabling product ID**  
6217


**CS valid until**  
1 March 2020

This product has been tested by FORCE Technology and complies with the requirements of the above "Terms and conditions for the EC VERIFIED programme for Generic and Coaxial Cabling", DQP231006 in a maintenance schedule, which implies that FORCE Technology performs a quality audit of the man and QA sites. The maintenance testing of the product is performed on a sample basis.

Hørsholm, 22 February 2019



Lars Lindskov Pedersen  
Test Manager



Dennis Andersen  
Head of Depart


či je váš dodávateľ oficiálnym distribučným kanálom, ktorý vie zabezpečiť podporu a záruky poskytované výrobcom

či sa zakúpený produkt zhoduje s produktom uvedeným v certifikáte (továrnske značenie na produkte alebo obale a výrobný kód v certifikáte)

či bol produkt testovaný podľa súčasných platných noriem \*\*

či je certifikát stále platný

či je kvalita sériovo vyrábaných produktov pod stálym dohľadom skúšobne alebo išlo o jednorázový test dodanej vzorky



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certification.madebydelta.com

\* [http://www.madebydelta.com/delta/Business\\_units/LAN/EC\\_VERIFIED-components.page?](http://www.madebydelta.com/delta/Business_units/LAN/EC_VERIFIED-components.page?)

\*\* ISO/IEC 11801:2017 (ed.1.0) - Medzinárodná norma definujúca požiadavky na štruktúrovanú kabeľáž.  
TIA-568.2-D:2018 - Americká národná norma definujúca požiadavky na štruktúrovanú kabeľáž.

# Compliance Statement

No. 2019-315

## Connecting Hardware, Category 6A

Including 4 Pair Power over Ethernet (4PPoE)  
(Un-mating connectors under electrical load of up to 2 A per conductor)

### Company

KRUGEL EXIM spol. s r.o.  
Rybnicna 38/H  
831 06 Bratislava  
Slovak Republic

### Product description

Screened Category 6A RJ45 Jack and Patch Panel characterised up to 500 MHz, 100  $\Omega$

### Product identification

KELine RJ45 Jack. Part number: KEJ-C6A-S-10G  
KELine Patch Panel. Part number: KEP-C6A-S-10G  
KELine Patch Panel. Part number: KEP-C6A-S-10G-NP

### Generic cabling and cabling components standards - Category 6A connector requirements

- ISO/IEC 11801-1:2017 (Ed. 1.0) / ISO/IEC 11801-2:2017 (Ed. 1.0)
- IEC 60603-7-51:2010
- EN 50173-1:2018 / EN 50173-2:2018
- TIA-568.2-D:2018
- IEC 60512-99-002:2019

including all connector alien crosstalk parameters (PS ANEXT and PS AFEXT)

### Technical report

T926911, DANAK-19/20158

### EC Cabling product ID

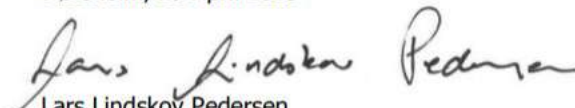
5113

### CS valid until

10 May 2020

This product has been tested by FORCE Technology and complies with the electrical requirements of the above specified standards and "Terms and conditions for the EC VERIFIED programme for Generic and Coaxial Cabling", DQP231006. The testing included measurement of NEXT with a compliant test plug and calculation of all the 14 test cases in both measurement directions. The product takes part in a maintenance of certification schedule, which implies that FORCE Technology performs a quality audit of the manufacturer's production and QA sites. The maintenance testing of the product is performed on a sample basis once a year.

Hørsholm, 29 April 2019

  
Lars Lindskov Pedersen  
Test Manager

  
Dennis Andersen  
Head of Department





# Certificate

No. z5319b-18-E

**Customer:**

Krugel Exim spol. s.r.o.  
Rybnicna 38/H  
831 06 Bratislava 35, Slovakia

**Category 6A**

**Test sample(s):**

Connector:  
**KELine® RJ-45 Keystone Cat.6A**  
Part no.: KEJ-C6A-S-HD

**Applied standard(s):**

ISO/IEC 11801-1 Ed.1.0 (2017-11)  
IEC 60603-7-51 Ed. 1.0 (2010-03)

**Result(s):**

The sample meets the limits of the specified standards and regulations with respect to the parameters indicated above.


## Connector, Copper, Category 6A

## GHMT Type Approval

The test results which were determined in the course of the measurement refer to the submitted specimen. Any future technical modifications of the verified products are subject to the responsibility of the manufacturer.

This Certificate refers to the comprehensive test report no. **P5319b-18-E** and shall only be applicable in conjunction with the test report. This certificate is valid 24 months after date of issue.

Bexbach, 10. January 2019



Dirk Wilhelm, engineer  
(Chairman of the Managing Board)



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**RELIABILITY IN TOTAL  
REQUIRES ACCURACY IN DETAIL.**

# Compliance Statement

No. 2020-037

## Data communication cords, Category 6A

### Company

KRUGEL EXIM spol. s r.o.  
Rybnicna 38/H  
831 06 Bratislava  
Slovak Republic

### Product description

Screened Category 6A RJ45 cords (equipment, patch, and work area) characterised up to 500 MHz

### Product identification

KELine 10Giga patch cables STP Cat.6A, LS0H  
Part number: KEL-C6A-P-xxx (xxx: denotes length in dm)

### Generic cabling and cabling components standard - Category 6A balanced cord requirements

- ISO/IEC 11801-1:2017 (Ed. 1.0) / ISO/IEC 11801-2:2017 (Ed. 1.0)
- EN 50173-1:2018 / EN 50173-2:2018
- TIA-568.2-D:2018
- IEC 61935-2:2010 (Ed. 3.0) (transmission requirements)

### Technical report

T936646-01, DANAK-19/20829

### EC Cabling product ID

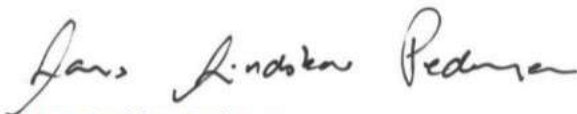
5008

### CS valid until

1 March 2021

This product has been tested by FORCE Technology and complies with the electrical requirements of the above specified standards and "Terms and conditions for the EC VERIFIED programme for Generic and Coaxial Cabling", DQP231006. The product takes part in a maintenance of certification schedule, which implies that FORCE Technology performs a sample test of the product once a year.

Hørsholm, 14 January 2020



Lars Lindskov Pedersen  
Test Manager



Dennis Andersen  
Head of Department





# Compliance Statement

No. 2020-222

## Data communication cable, Category 6A

### Company

KRUGEL EXIM spol s r.o.  
Rybničná 38/H  
831 06 Bratislava  
Slovakia

### Product description

Screened cable (U/FTP) characterised up to 500 MHz  
Horizontal floor wiring cable, 100 Ω  
4 individually screened twisted pairs  
Flame retardant, halogen free

### Product identification

KELine 10Giga 550MHz, STP 4x2xAWG23 Cat.6A, LSOH  
Part number: KE550HS23/1E

### Generic cabling and cabling components standards - Category 6A cable requirements

- ISO/IEC 11801-1:2017 (Ed. 1.0) / ISO/IEC 11801-2:2017 (Ed. 1.0)
- IEC 61156-5:2012 (Ed. 2.1)
- EN 50173-1:2018 / EN 50173-2:2018
- EN 50288-10-1:2012
- TIA-568.2-D:2018

### Standards for flammability, halogen acidity, and smoke performance

- IEC 60332-1-1:2015 (Ed. 1.1) / IEC 60332-1-2:2015 (Ed. 1.1)
- IEC 60754-2:2011 (Ed. 2.0)
- IEC 61034-1:2013 (Ed. 3.1) / IEC 61034-2:2013 (Ed. 3.1)

### Technical report

12024007-01, DANAK-19/20996

### EC Cabling product ID

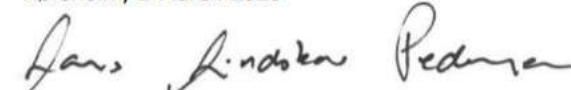
6217

### CS valid until

1 March 2021

This product has been tested by FORCE Technology and complies with the requirements of the above specified standards and "Terms and conditions for the EC VERIFIED programme for Generic and Coaxial Cabling", DQP231006. The product takes part in a maintenance schedule, which implies that FORCE Technology performs a quality audit of the manufacturer's production and QA sites. The maintenance testing of the product is performed on a sample basis.

Hørsholm, 2 March 2020

  
Lars Lindskov Pedersen  
Test Manager

  
Dennis Andersen  
Head of Department

# Compliance Statement

No. 2020-223

## Data communication cable, Category 7

### Company

KRUGEL EXIM spol s r.o.  
Rybničná 38/H  
831 06 Bratislava  
Slovakia

### Product description

Screened cable (S/FTP) characterised up to 1000 MHz\*  
Horizontal floor wiring cable, 100 Ω  
4 individually foil screened twisted pairs with overall braid screen  
Flame retardant, halogen free

### Product identification

KELine 10Giga 1000MHz, S/FTP 4x2xAWG23 Cat.7, LSOH  
Part number: KE1000HS23

### Generic cabling and cabling components standards - Category 7 cable requirements

- ISO/IEC 11801-1:2017 (Ed. 1.0) / ISO/IEC 11801-2:2017 (Ed. 1.0)
- IEC 61156-5:2012 (Ed. 2.1)
- EN 50173-1:2018 / EN 50173-2:2018
- EN 50288-4-1:2013

### Standards for flammability, halogen acidity, and smoke performance

- IEC 60332-1-1:2015 (Ed. 1.1) / IEC 60332-1-2:2015 (Ed. 1.1)
- IEC 60754-2:2011 (Ed. 2.0)
- IEC 61034-1:2013 (Ed. 3.1) / IEC 61034-2:2013 (Ed. 3.1)

### Technical report

12024007-02, DANAK-19/20997

### EC Cabling product ID

6218

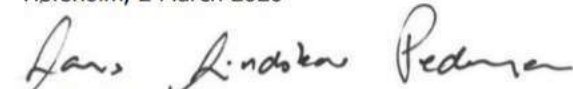
### CS valid until

1 March 2021

\*Transmission parameters comply with IEC 61156-7 and with extended Cat. 7 limits up to 1000 MHz.

This product has been tested by FORCE Technology and complies with the requirements of the above specified standards and "Terms and conditions for the EC VERIFIED programme for Generic and Coaxial Cabling", DQP231006. The product takes part in a maintenance schedule, which implies that FORCE Technology performs a quality audit of the manufacturer's production and QA sites. The maintenance testing of the product is performed on a sample basis.

Hørsholm, 2 March 2020

  
Lars Lindskov Pedersen  
Test Manager

  
Dennis Andersen  
Head of Department