Polski Komitet Normalizacyjny

POPRAWKA do POLSKIEJ NORMY

ICS 29.240.20;

PN-EN 50423-3:2005/AC

Marzec 2006

Wprowadza
EN 50423-3:2005/AC:2005, IDT

Zastępuje

Dotyczy
PN-EN 50423-3:2005 (U)

Elektroenergetyczne linie napowietrzne prądu przemiennego powyżej 1 kV do 45 kV włącznie - Część 3: Zbiór normatywnych warunków krajowych

Na wniosek Komitetu Technicznego nr 80
ds. Ogólnych w Sieciach Elektroenergetycznych
poprawka do normy europejskiej EN 50423-3:2005/AC:2005 Overhead electrical lines exceeding AC 1 kV up to and including AC 45 kV - Part 3: Set of National Normative Aspects
ma status Poprawki do Polskiej Normy

nr ref. PN-EN 50423-3:2005/AC:2006 (U)

Corrigendum to EN 50423-3:2005

English version

EN 50423-3-7, Finland

Replace pages 9/20 and 11/20 by the attached new pages:

EN 50423-3-9, Great Britain and Northern Ireland

Under 7.3 a) 2), **replace** the second formula by:

$$\overline{\Lambda} = 0{,}50 + 0{,}6464\Lambda \qquad \text{if } \Lambda \leq \sqrt{2}$$

April 2005

Clause National regulation

(ncpt) **FI.4 Unbalanced ice**

The following α-factors shall be used:

α = 0,50
α_1 = 0,35 α_2 = 0,70
α_3 = 0,35 α_4 = 0,70

1.1 4.2.11 Partial factors for actions

(ncpt) **FI.1 Load and reduction factors**

Partial load factors γ_F and reduction factors Ψ for different actions can be found in Table 4.2.11/FI.1. The following definitions are used:

Extreme wind = 50 year return period wind load based on the reference wind speed value and including the gust, terrain, height, altitude and temperature effects
High wind = Extreme wind load x 0,70 (i.e. ~85% of the extreme speed)
Reduced wind = Extreme wind load x 0,58 (i.e. ~75% of the extreme speed, = 3 year return period value, used in clearance calculations only)
Moderate wind = Extreme wind load x 0,40 (i.e. ~65% of the extreme speed)
Extreme ice = Reference ice load
Moderate ice = Reference ice load x 0,37

Table 4.2.11/FI.1 - Load cases, temperatures, reduction and partial load factors

		Temp	Wind	Ice	Lev 1		Lev 2		Lev 3		Weig
Nr	**Load case**	^oC	Ψ_W	Ψ_I	γ_W	γ_I	γ_W	γ_I	γ_W	γ_I	γ_G
1a	Extreme wind	- 20	1,00		1,00		1,20		1,40		1,00
1b	Extreme low temperature	T_{min}									1,00
1c	Reduced wind	0	0,58		1,00		1,00		1,00		1,00
2a	Extreme ice	0		1,00		1,00		1,20		1,40	1,00
2b*	Uniform ice, transversal bending	0		α_i		1,00		1,20		1,40	1,00
2c*	Unbal. ice, long. bending	0		α_i		1,00		1,20		1,40	1,00
2d*	Unbal. ice, tors. bending	0		α_i		1,00		1,20		1,40	1,00
2e*	Dropped ice at one span	0		0,70		1,00		1,20		1,40	1,00
3a	Extreme ice + moderate wind	0	0,40	1,00	1,00	1,00	1,00	1,20	1,00	1,40	1,00
3b	Moderate ice + high wind	0	0,70	0,37	1,00	1,00	1,20	1,00	1,40	1,00	1,00
4	Construction, maintenance	- 20			$\gamma_P = 1,50$						1,00
5	Security loads	0			$\gamma_A = 1,00$						1,00

The following remarks shall be taken into account:

(ncpt) **FI.2 Ice thickness**

The ice thickness shall be calculated from the extreme ice load value multiplied by the relevant reduction and load factors.

(ncpt) **FI.3 Conductor tension analysis**

The partial load factors shall be applied on the loads prior to the conductor tension analysis.

Clause National regulation

Exceptional case:
The upper conductor or earthwire is iced and the lower conductor is non-iced. The temperature is 0 ^{o}C. The simultaneous wind load is not considered.

(ncpt) **FI.4 Wind loads**

Reduced wind load:
Wind load of three year return period, i.e. the extreme wind load multiplied by the factor 0,58.

Extreme wind load:
Wind load of 50 year return period.

The assumed temperature is 0 ^{o}C in both cases.

(ncpt) **FI.5 Combined ice and wind loads**

Combined ice and wind loads need not to be taken into account in the determination of clearances.

1.2 5.4.3 Clearances within the span and at the tower

(ncpt) **FI.1 Reduction factor for clearances**
The reduction factor k_1 is 0,65.

(ncpt) **FI.2 Calculation of clearances at the tower**

The clearance between the clamping points of phase conductors and between the phaseconductors and earthwires shall be calculated as follows:

When the conductors are in a horizontal configuration or their vertical clearance $v \leq 0{,}2\ v_0$, their horizontal clearance shall be $e \geq e_0$.

When the conductors are in a vertical configuration or their horizontal clearance is $e \leq 0{,}2\ e_0$, their vertical clearance shall be $v \geq v_0$.

When the conductors are in neither configuration mentioned above, their horizontal and vertical clearance shall be chosen so that the following inequality is fulfilled:

(a) $e/e_0 + v/v_0 \geq 1{,}2$

The values e_0 and v_0 shall be calculated as follows:

(b) $0{,}5 + D_{el} \leq e_0 = 0{,}6\sqrt{f_T + l_k} + D_{el}$

(c) $0{,}8 + D_{el} \leq v_0 = \sqrt{f_T + l_k} + D_{el}$

l_k = length of suspension string or equivalent hanging from one point

f_T = conductor sag at 50 ^{o}C allowing for the conductor permanent elongation caused by the three year minimum temperature load (see Table 4.2.5/FI.1).