

# Rating conversion factors for installation of Medium Voltage Cables, 6 – 30 kV

## Rating conversion factors for laying in air\*\*) Single core cables in 3-phase systems

Arrangement of cables in laying condition	Number of cables troughs or trays on top of each other	For laying on plain surface Space = cable $\varnothing$ d Distance from wall $\geq 2$ cm			For installation in grouping Space = 2x cable $\varnothing$ d Distance from wall $\geq 2$ cm				
		Installation method	1	2	3	Installation method	1	2	3
on the ground	–		0,92	0,89	0,88		0,98	0,96	0,94
on non-perforated cable troughs (restricted air circulation)	1 2 3 6		0,92 0,87 0,84 0,82	0,89 0,84 0,82 0,80	0,88 0,83 0,81 0,79		0,98 0,95 0,94 0,93	0,96 0,91 0,90 0,88	0,94 0,87 0,85 0,82
on perforated cable troughs	1 2 3 6		1,00 0,97 0,96 0,94	0,93 0,89 0,88 0,85	0,90 0,85 0,82 0,80		1,00 0,97 0,96 0,95	0,98 0,93 0,92 0,90	0,96 0,89 0,85 0,83
on cable trays or on cable ladders (unrestricted air circulation)	1 2 3 6		1,00 0,97 0,96 0,94	0,97 0,94 0,93 0,91	0,96 0,93 0,92 0,90		1,00 0,97 0,96 0,95	1,00 0,95 0,94 0,93	1,00 0,93 0,90 0,87
on platform or on the wall	1 2		0,94 0,94	0,91 0,90	0,89 0,86		1,00 1,00	0,91 0,90	0,89 0,86
Arrangements, for which a reduction not necessary <sup>1)</sup>		For the installation on plain surface with greater distance, the mutual heating is lower, for this occur the additional sheath or screen-losses. Because of that no particulars can be made for reduction-free arrangements.							

### \* Conversion factors for deviating ambient temperature

Temperature °C	10	15	20	25	30	35	40	45	50
<b>XLPE-cable</b>	1,15	1,12	1,08	1,04	1,0	0,96	0,91	0,87	0,82
<b>PVC-cable</b>	1,22	1,17	1,12	1,06	1,0	0,94	0,87	0,79	0,71

<sup>1)</sup> In narrow rooms or for bigger grouping, the air temperature is increased due to energy losses of cable, so the additional conversion factors for deviating air-temperatures are to be taken in the given table.