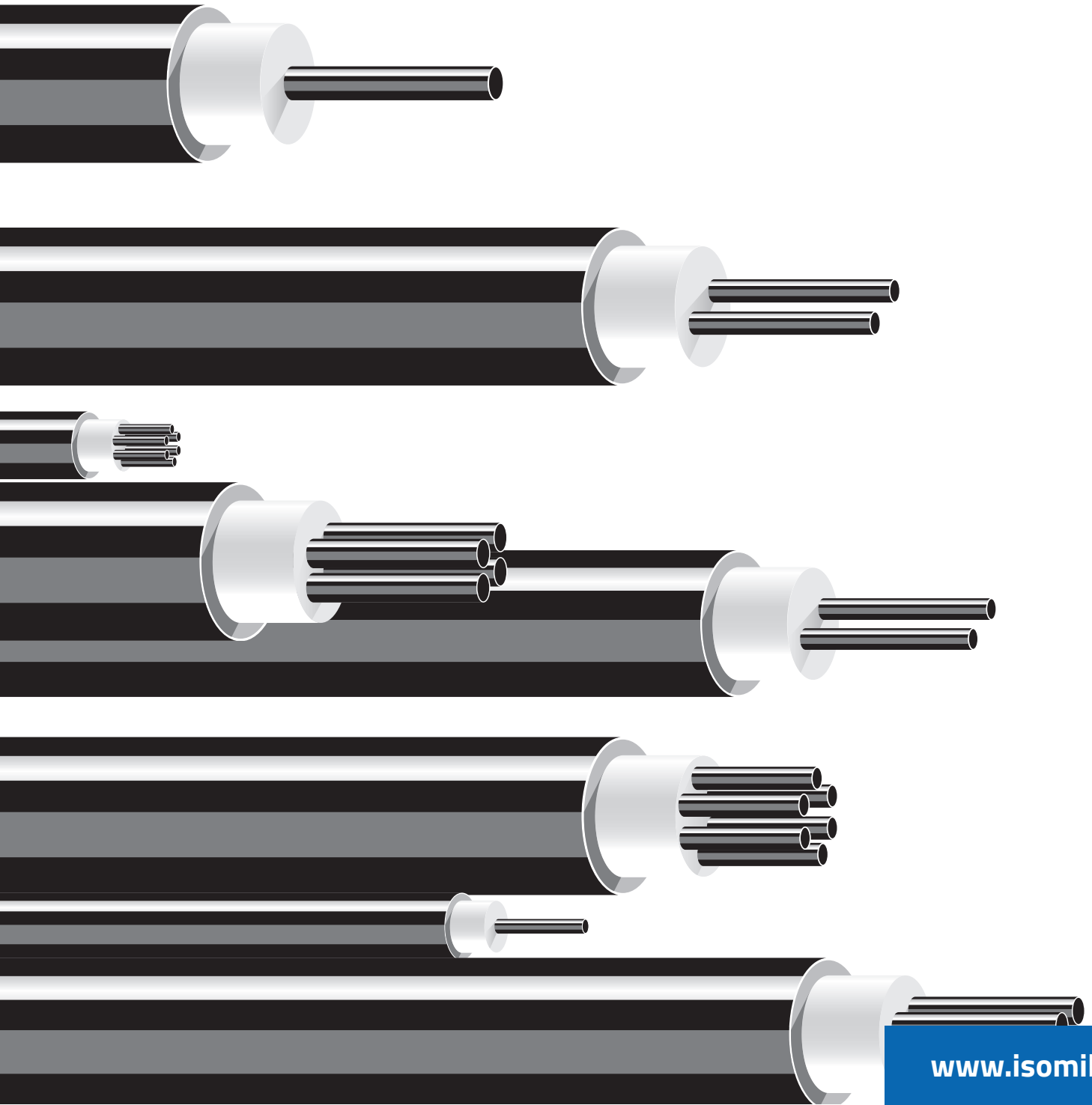


## KNOW-HOW

> SHEATH MATERIALS



## Sheath Materials

Supply and demand on the mineral insulated cable market comprise a vast array of sheath qualities with the main emphasis on materials suitable for certain applications and those with a historical basis. To limit this choice to an acceptable range as far as production and stock are concerned we are obliged, in particular with high grade stainless steels, to carry out a selective process for our standard production programme. A number of other sheath material qualities are available, and can be used for customer specials.

The following table and explanations are intended as an aid. By comparing the qualities available the customer is in a position to select the most suitable sheath material for his own purpose from the ISOMIL qualities available.

### Common Sheath Materials

Material No.	Short Description	AISI (USA)	BS (GB)	AFNOR (FR)	UNI (IT)
1.4301	(X5CrNi 18-9)	304	304S	Z6CN 18-09	X5CrNi 1810
1.4306	(X5CrNi 19-11)	304L	304S	Z2CN 18-10	X3CrNi 1811
1.4401	(X5CrNiMo 18-10)	316	316S	Z6CND 17-11	X5CrNi MO1712
1.4404	(X2CrNiMo 18-10)	316L	316S	Z2CND 17-12	X2CrNiMo 1712
1.4541	(X6CrNiTi 18-10)	321	321S	Z6CNT 18-11	X6CrNiTi 1811
1.4550	(X6CrNiNb 18-10)		347S	Z6CNNb 18-11	X6CrNiNb 1811
1.4571	(X6CrNiMoTi 17-12-2)	316TI	320 S31	Z6CNDT 17-12	X6CrNiMoTi 1712
1.4845	(X12CrNi 25-21)	310S	310S	Z12CN 25-20	X6CrNi 2521
<b>ASTM</b>					
2.4816	Alloy 600	600		NC15Fe	B163. 166-168
2.4851	Alloy 601	601			
1.4876	Alloy 800	800	NA15	Z10NG32-21	
2.4858	Alloy 825	825	NA16	NFe 32C20DU	
<b>Incotherm TG</b>	Nicromil		3072-3074		
	Roy. Swed.				<b>Roy. Swed.</b>
2.4951	Nimonic 75		HR 203, 504	NC20T	MH. 05

## Common Sheath Materials

(Composition of Sheath Material wt.-%)

Material No.	Ni	Cr	C max.	Si max.	Mn max.	Fe	Mo*	Others**
<b>1.4301</b>	8,0-10,5	17,0-20,0	0,07	1,0	2,0	Rest		
<b>1.4306</b>	10,0-12,0	18,0-20,0	0,03	1,0	2,0	Rest		
<b>1.4401</b>	10,5-13,5	16,5-18,5	0,07	1,0	2,0	Rest	2,0-2,5	
<b>1.4404</b>	10,0-13,0	16,5-18,5	0,03	1,0	2,0	Rest	2,0-2,5	
<b>1.4541</b>	9,0-12,0	17,0-19,0	0,08	1,0	2,0	Rest		Ti > 5xC
<b>1.4550</b>	9,0-12,0	17,0-19,0	0,08	1,0	2,0	Rest		Nb > 8xC
<b>1.4571</b>	10,5-13,5	16,5-18,5	0,08	1,0	2,0	Rest	2,0-2,5	Ti > 5xC
<b>1.4845</b>	19,0-22,0	24,0-26,0	0,08	1,0	2,0	Rest		N < 0,11
<b>1.4876</b>	30,0-34,0	19,0-23,0	0,12	1,0	2,0	Rest		Ti und Al 0,15-0,60
<b>2.4858</b>	38,0-46,0	19,5-23,5	0,05	0,5	1,0		2,5-3,5	Ti 0,6-1,2 Cu 1,5-3,0
<b>2.4816</b>	>72,0	14,0-17,0	0,15	0,5	1,0	6,0-10,0		
<b>2.4851</b>	58,0-63,0	21,0-25,0	0,10	0,5	1,0			Ti < 0,5 Al 1,0-1,7
<b>Incotherm TG</b>	73,6	22,0		1,4			3,0	

\*) Molybdenum can be used - depending of the alloy - to improve corrosion resistance to a number of acids and resistance to pitting.

\*\*) Niobium and Titanium bind the carbon (as carbide formers) thus preventing the formation of Cr carbides on the grain boundaries during welding which could lead to embrittlement in the welding zone.