Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MMA																														
		E 46 4 B 4 1 H5	E 42 0 RC 1 1	E 42 5 B 1 2 H5	E 46 6 Mn1Ni B 3 2 H5	E 42 2 R 1 2	E 38 4 B 7 4 H10	E 42 0 RR 5 3	E 42 0 RR 7 3	E 42 4 B 7 3 H5	E 42 2 RA 5 3	E 38 2 C 2 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 42 0 RR 1 2	E 42 2 RB 1 2	E 42 4 B 4 2 H5	E 46 5 1Ni B 3 2 H5	E 42 4 B 4 2 H10	E 38 2 B 4 2	E 42 4 B 2 2	E 38 2 B 3 2	E 42 5 B 1 2 H5	E 46 5 B 3 2 H5							
		Filarc 27P	Filarc 48	Filarc 56S	Filarc 76S	Filarc 78	Filarc C6HH	OK Femax 33.60	OK Femax 33.80	OK Femax 38.65	OK Femax 39.50	Pipeweld 6010	OK 46.00	OK 46.44	OK 46.64	OK 46.16	OK 43.32	OK 50.40	OK 48.00	OK 48.08	OK 48.30	OK 48.65	OK 53.05	OK 53.16 Spezial	OK 53.70	OK 55.00						
1.0252	L235	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0458	L235GA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0345	P235GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0112	P235S	●	○	●	●	○	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0253	P235TR1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0254	P235TR2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0114	S235J0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0115	S235J0C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0117	S235J2	●	○	●	●	○	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0119	S235J2C	●	○	●	●	○	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0116	S235J2G3	●	○	●	●	○	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0120	S235JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0122	S235JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0039	S235JRH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0038	S235JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0021	S240GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0459	L245GA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0418	L245MB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0457	L245NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0352	P245GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0111	P245NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0460	P250GH (C22.8)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0452	P255QL	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●						
1.0971	S260NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0425	P265GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0130	P265S	●		●	●		●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0423	P265NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0453	P265NL	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●						
1.0258	P265TR1	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0259	P265TR2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0023	S270GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0260	L275	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0487	P275NH	○		●	○		●	○	○	●	●	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0488	P275NL1	○		○	●																●					●						
1.1104	P275NL2	○		○	●																●					●						
1.1100	P275SL	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○						
1.0143	S275J0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0140	S275J0C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0149	S275J0H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0145	S275J2	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		MMA																														
Materiał dodatkowy / Materiał rodzimy		E 46 4 B 4 1 H5	E 42 0 RC 1 1	E 42 5 B 1 2 H5	E 46 6 Mn1Ni B 3 2 H5	E 42 2 R 1 2	E 38 4 B 7 4 H10	E 42 0 RR 5 3	E 42 0 RR 7 3	E 42 4 B 7 3 H5	E 42 2 RA 5 3	E 38 2 C 2 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 42 0 RR 1 2	E 42 2 RB 1 2	E 42 4 B 4 2 H5	E 46 5 1Ni B 3 2 H5	E 42 4 B 4 2 H10	E 38 2 B 4 2	E 42 4 B 2 2	E 38 2 B 3 2	E 42 5 B 1 2 H5	E 46 5 B 3 2 H5						
		Filarc 27P	Filarc 48	Filarc 56S	Filarc 76S	Filarc 78	Filarc C6HH	OK Femax 33.60	OK Femax 33.80	OK Femax 38.65	OK Femax 39.50	Pipeweld 6010	OK 46.00	OK 46.44	OK 46.64	OK 46.16	OK 43.32	OK 50.40	OK 48.00	OK 48.08	OK 48.30	OK 48.65	OK 53.05	OK 53.16 Speział	OK 53.70	OK 55.00						
1.0142	S275J2C	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0138	S275J2H	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0044	S275JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0128	S275JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.8818	S275M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.8843	S275MH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.8819	S275ML	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.8844	S275MLH	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.0490	S275N	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0493	S275NH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0491	S275NL	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.0497	S275NLH	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.0426	P280GH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0477	P285NH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0478	P285QH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0483	L290GA (API 5L: X42)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0429	L290MB (API 5L: X42)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0484	L290NB (API 5L: X42)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0050	E295 (St50-2)	●		●	●		●			●								●	●	●	●	●	●	●	●	●						
1.0481	P295GH (17Mn4)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0436	P305GH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0482	P310GH (19Mn5)	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0437	P310NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0972	S315MC	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0973	S315NC	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0046	S320GP	●	●	●	●	●	●	○	○	●	○	○	○	●	●	○	○	●	●	●	●	○	●	○	●	●						
1.0060	E335 (St60-2)	●		●	●		●			●								●	●	●	○	●	○	●	●							
1.0473	P355GH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8821	P355M	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8832	P355ML1	○		○	●															●						●						
1.8833	P355ML2	○		○	●															●						●						
1.0562	P355N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0557	P355NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0565	P355NH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0566	P355NL1	○		○	●															●						●						
1.1106	P355NL2	○		○	●															●						●						
1.8866	P355Q	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8867	P355QH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0571	P355QH1	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8868	P355QL1	○		○	●															●						●						

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		MMA																														
Materiał dodatkowy / Materiał rodzimy		Filarc 27P	Filarc 48	Filarc 56S	Filarc 76S	Filarc 78	Filarc C6HH	OK Femax 33.60	OK Femax 33.80	OK Femax 38.65	OK Femax 39.50	Pipeweld 6010	OK 46.00	OK 46.44	OK 46.64	OK 46.16	OK 43.32	OK 50.40	OK 48.00	OK 48.08	OK 48.30	OK 48.65	OK 53.05	OK 53.16 Specjal	OK 53.70	OK 55.00						
		E 46 4 B 4 1 H5	E 42 0 RC 1 1	E 42 5 B 1 2 H5	E 46 6 Mn1Ni B 3 2 H5	E 42 2 R 1 2	E 38 4 B 7 4 H10	E 42 0 RR 5 3	E 42 0 RR 7 3	E 42 4 B 7 3 H5	E 42 2 RA 5 3	E 38 2 C 2 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 42 0 RR 1 2	E 42 2 RB 1 2	E 42 4 B 4 2 H5	E 46 5 1Ni B 3 2 H5	E 42 4 B 4 2 H10	E 38 2 B 4 2	E 42 4 B 2 2	E 38 2 B 3 2	E 42 5 B 1 2 H5	E 46 5 B 3 2 H5						
1.8869	P355QL2	○		○	●															●						●						
1.8814	S355G1 (+N)	●		●	●		●			●										●	●		●		●	●						
1.8801	S355G2+N			●	●															●												
1.8802	S355G3+N			●	●															●												
1.8803	S355G4 (+M)			●	●															●												
1.8804	S355G5+M			●	●															●												
1.8805	S355G6+M			●	●															●												
1.8808	S355G7+M (+N)			●	●															●												
1.8810	S355G8+M (+N)			●	●															●												
1.8811	S355G9+M (+N)			●	●															●												
1.8813	S355G10+M (+N)			●	●															●												
1.8806	S355G11 (+M) (+N)			●	●															●												
1.8809	S355G12 (+M) (+N)			●	●															●												
1.1182	S355G13+N (+Q)			●	●															●												
1.1184	S355G14+N (+Q)			●	●															●												
1.1190	S355G15+N (+Q)			●	●															●												
1.0083	S355GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0554	S355J0C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0547	S355J0H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0577	S355J2	●	○	●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0579	S355J2C	●	○	●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0570	S355J2G3	●	○	●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0576	S355J2H	●	○	●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0045	S355JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
1.0551	S355JRC	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0596	S355K2	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0594	S355K2C	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0512	S355K2H	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8823	S355M	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0976	S355MC	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8845	S355MH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.8834	S355ML	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.8846	S355MLH	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.0545	S355N	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0977	S355NC	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0539	S355NH	●		●	●	●	●	○	○	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●						
1.0546	S355NL	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.0549	S355NLH	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	●	●						
1.0070	E360 (St70-2)	○		●	●					○									●	●	●		○		○	●						
1.0499	L360GA (API 5L: X52)	●	○	●	●	●	●	○	○	○	○	●	○	○	○	○	○	●	●		●	●	●	●	●	●						

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MMA																																
		E 46 4 B 4 1 H5	E 42 0 RC 1 1	E 42 5 B 1 2 H5	E 46 6 Mn1Ni B 3 2 H5	E 42 2 R 1 2	E 38 4 B 7 4 H10	E 42 0 RR 5 3	E 42 0 RR 7 3	E 42 4 B 7 3 H5	E 42 2 RA 5 3	E 38 2 C 2 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 42 0 RR 1 2	E 42 2 RB 1 2	E 42 4 B 4 2 H5	E 46 5 1Ni B 3 2 H5	E 42 4 B 4 2 H10	E 38 2 B 4 2	E 42 4 B 2 2	E 38 2 B 3 2	E 42 5 B 1 2 H5	E 46 5 B 3 2 H5								
		Filarc 27P	Filarc 48	Filarc 56S	Filarc 76S	Filarc 78	Filarc C6HH	OK Femax 33.60	OK Femax 33.80	OK Femax 38.65	OK Femax 39.50	Pipeweld 6010	OK 46.00	OK 46.44	OK 46.64	OK 46.16	OK 43.32	OK 50.40	OK 48.00	OK 48.08	OK 48.30	OK 48.65	OK 53.05	OK 53.16 Spezial	OK 53.70	OK 55.00								
1.0578	L360MB (API 5L: X52)	●	○	●	●	●	●	○	○	●	○	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●								
1.0582	L360NB (API 5L: X52)	●	○	●	●	●	●	○	○	○	○	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●								
1.8948	L360QB (API 5L: X52)	●	○	●	●	●	●	○	○	○	○	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●								
1.0522	S390GP	●		●	●					●								●	●	●	●		●		●	●								
1.8973	L415MB (API 5L: X60)	●		●	●							●							●	●	●		●		●	●								
1.8972	L415NB (API 5L: X60)	●		●	●							●							●	●	●		●		●	●								
1.8947	L415QB (API 5L: X60)	●		●	●							●							●	●	●		●		●	●								
1.0428	BSt 420 S / B420N	●	●	●	○	●	●	○	○	●	●		●	●	●			●	●	●	●	●	●	●	●	●								
1.8824	P420M	●		●	●					●								●	●	●	●		●		●	●								
1.8835	P420ML1	○			●															●						●								
1.8828	P420ML2	○			●															●						●								
1.8932	P420NH	●		●	●					●								●	●	●	●		●		●	●								
1.8936	P420QH	●		●	●					●								●	●	●	●		●		●	●								
1.8830	S420G1+M (+Q)			●	●															●														
1.8857	S420G2+M (+Q)			●	●															●														
1.8851	S420G3 (+M)			●	●															●														
1.8859	S420G4 (+M)			●	●															●														
1.8853	S420G5+Q			●	●															●														
1.8852	S420G6+Q			●	●															●														
1.8825	S420M	●		●	●					●								●	●	●	●		●		●	●								
1.0980	S420MC	●		●	●					●								●	●	●	●		●		●	●								
1.8847	S420MH	●		●	●					●								●	●	●	●		●		●	●								
1.8836	S420ML	○		●	●														○	●	○		○		●	●								
1.8848	S420MLH	○		●	●														○	●	○		○		●	●								
1.8902	S420N	●		●	●					●								●	●	●	●		●		●	●								
1.0981	S420NC	●		●	●					●								●	●	●	●		●		●	●								
1.8750	S420NH	●		●	●					●								●	●	●	●		●		●	●								
1.8912	S420NL	○		●	●														○	●	○		○		●	●								
1.8751	S420NLH	○		●	●														○	●	○		○		●	●								
1.0523	S430GP	●		●	●					●								●	●	●	●		●		●	●								
1.8975	L450MB (API 5L: X65)	●										○								●					○	●								
1.8952	L450QB (API 5L: X65)	●										○								●					○	●								
1.8826	P460M	○																		●						●								
1.8837	P460ML1	○			●															●						●								
1.8831	P460ML2	○			●															●						●								
1.8905	P460N	○																		●						●								
1.8935	P460NH	○																		●						●								
1.8915	P460NL1	○			●															●						●								
1.8918	P460NL2	○			●															●						●								
1.8870	P460Q	○																		●						●								

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○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

K

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MMA																													
		E 46 4 B 4 1 H5	E 42 0 RC 1 1	E 42 5 B 1 2 H5	E 46 6 Mn1Ni B 3 2 H	E 42 2 R 1 2	E 38 4 B 7 4 H10	E 42 0 RR 5 3	E 42 0 RR 7 3	E 42 4 B 7 3 H5	E 42 2 RA 5 3	E 38 2 C 2 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 42 0 RR 1 2	E 42 2 RB 1 2	E 42 4 B 4 2 H5	E 46 5 1Ni B 3 2 H5	E 42 4 B 4 2 H10	E 38 2 B 4 2	E 42 4 B 2 2	E 38 2 B 3 2	E 42 5 B 1 2 H5	E 46 5 B 3 2 H5						
		Filarc 27P	Filarc 48	Filarc 56S	Filarc 76S	Filarc 78	Filarc C6HH	OK Femax 33.60	OK Femax 33.80	OK Femax 38.65	OK Femax 39.50	Pipeweld 6010	OK 46.00	OK 46.44	OK 46.64	OK 46.16	OK 43.32	OK 50.40	OK 48.00	OK 48.08	OK 48.30	OK 48.65	OK 53.05	OK 53.16 Spezial	OK 53.70	OK 55.00						
1.8871	P460QH	○																		●						●					
1.8872	P460QL1	○			●															●						●					
1.8864	P460QL2	○			●															●						●					
1.8878	S460G1+M (+Q)				●															●											
1.8887	S460G2+M (+Q)				●															●											
1.8883	S460G3 (+M)				●															●											
1.8889	S460G4 (+M)				●															●											
1.8885	S460G5+Q				●															●											
1.8884	S460G6+Q				●															●											
1.8827	S460M	○			●															●						●					
1.0982	S460MC	○			●															●						●					
1.8849	S460MH	○			●															●						●					
1.8838	S460ML	○			●															●						●					
1.4850	S460MLH	○			●															●						●					
1.8901	S460N	○			●															●						●					
1.8953	S460NH	○			●															●						●					
1.8903	S460NL	○			●															●						●					
1.8956	S460NLH	○			●															●						●					
1.8908	S460Q	○			●															●						●					
1.8906	S460QL	○			●															●						●					
1.8916	S460QL1	○			●															●						○					
1.8977	L485MB (API 5L: X70)	○										○													○						
1.8955	L485QB (API 5L: X70)	○										○													○						
1.0438	BSt 500 S / B500N	●	●	●	○	●	●	○	○	●	●		●	●	●			●	●	●	●	●	●	●	●	●	●					
1.0466	BSt 500 M / B500G3	●	●	●	○	●	●	○	○	●	●		●	●	●			●	●	●	●	●	●	●	●	●	●					
1.0420	GE200 (GS-38)	●		●	●					●									●	●	●		●		●	●					
1.0449	GS200	●		●	●					●									●	●	●		●		●	●					
1.0445	GE240 (GS-45)	●		●	●					●									●	●	●		●		●	●					
1.0455	GS240	●		●	●					●									●	●	●		●		●	●					
1.0558	GE300 (GS-60)	●		●	●					●									●	●	●		●		●	●					
1.1131	G17Mn5	●		●	●					●									●	●	●		●		●	●					
1.0521	R200 (StSch 700)																			●											
1.0524	R220 (StSch 800)																			●											
1.0623	R260 (StSch 900A)																			●											
1.0624	R260Mn (StSch 900B)																			●											

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Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MMA																														
		E 46 4 B 4 1 H5	E 42 0 RC 1 1	E 42 5 B 1 2 H5	E 46 6 Mn1Ni B 3 2 H	E 42 2 R 1 2	E 38 4 B 7 4 H10	E 42 0 RR 5 3	E 42 0 RR 7 3	E 42 4 B 7 3 H5	E 42 2 RA 5 3	E 38 2 C 2 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 38 0 RC 1 1	E 42 0 RR 1 2	E 42 2 RB 1 2	E 42 4 B 4 2 H5	E 46 5 1Ni B 3 2 H5	E 42 4 B 4 2 H10	E 38 2 B 4 2	E 42 4 B 2 2	E 38 2 B 3 2	E 42 5 B 1 2 H5	E 46 5 B 3 2 H5							
		Filarc 27P	Filarc 48	Filarc 56S	Filarc 76S	Filarc 78	Filarc C6HH	OK Femax 33.60	OK Femax 33.80	OK Femax 38.65	OK Femax 39.50	Pipeweld 6010	OK 46.00	OK 46.44	OK 46.64	OK 46.16	OK 43.32	OK 50.40	OK 48.00	OK 48.08	OK 48.30	OK 48.65	OK 53.05	OK 53.16 Spezial	OK 53.70	OK 55.00							
1.0440	GL-A (S235JRS1)	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●		●	●	●		●	●		●						
1.0441	GL-A (S235JRS2)	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●		●	●	●		●	●		●						
1.0442	GL-B (S235J0S)	●	●	●	●	●	●	●	●	●	●		●	●	●	●			●	●	●		●	●		●						
1.0474	GL-D (S235J2S2)	●	●	●	●	●	●	●	●	●	●		●	●	●	●			●	●	●		●	●		●						
1.0475	GL-D (S235J2S1)	●	●	●	●	●	●	●	●	●	●		●	●	●	●			●	●	●		●	●		●						
1.0476	GL-E (S235J4S)	●		●	●		●			●	●								●	●	●		●	●		●						
1.0513	GL-A 32 (S315G1S)	●	●	●	●		●			●	●			●					●	●	●		●	●		●						
1.0514	GL-D 32 (S315G2S)	●	●	●	●		●			●	●			●					●	●	●		●	●		●						
1.0515	GL-E 32 (S315G3S)	●		●	●		●			●	●								●	●	●		●	●		●						
1.8840	GL-F 32 (S315G4S)	●		●	●															●												
1.0583	GL-A 36 (S355G1S)	●	●	●	●		●			●	●			●					●	●	●		●	●		●						
1.0584	GL-D 36 (S355G2S)	●	●	●	●		●			●	●			●					●	●	●		●	●		●						
1.0589	GL-E 36 (S355G3S)	●		●	●		●			●	●								●	●	●		●	●		●						
1.8841	GL-F 36 (S355G4S)	●		●	●															●												
1.1151	C22E	●	○	●	●	○	●	○	○	●	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●						
1.1158	C25E	●	○	●	●	○	●	○	○	●	○	○	○	○	○	○	○	○	●	●	●	●	●	●	●	●						
1.0528	C 30	●		●	●		●			●									●	●	●	●	●	●	●	●						
1.1178	C30E	●		●	●		●			●									●	●	●	●	●	●	●	●						
1.0501	C 35	●		●	●		●			●									●	●	●		●		●	●						
1.1181	C35E	●		●	●		●			●									●	●	●		●		●	●						
1.0511	C 40	●		●	●		●			●									●	●	●		●		●	●						
1.1186	C40E	●		●	●		●			●									●	●	●		●		●	●						
1.0503	C 45	●		●	●		●			●									●	●	●		●		●	●						
1.1191	C45E	●		●	●		●			●									●	●	●		●		●	●						
1.0540	C 50	●		●	●		●												●	●	●		●		●	●						
1.1206	C50E	●		●	●		●												●	●	●		●		●	●						
1.0535	C 55	●		●	●		●												●	●	●		●		●	●						
1.1203	C55E	●		●	●		●												●	●	●		●		●	●						
1.0601	C 60	●		●	●		●												●	●	●		●		●	●						
1.1221	C60E	●		●	●		●												●	●	●		●		●	●						

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○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

K

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MAG														TIG								
		G 42 4 M G3Si1 / G 38 2 C G3Si	G 42 3 M G3Si1 / G 38 2 C G3Si	G 38 3 M G2Si / G 35 2 C G2Si	G 38 3 M G2Si / G 35 2 C G2Si	G 46 4 M G2Ti / G 42 3 C G2Ti	G 46 4 M G4Si1 / G 42 2 C G4Si	G 46 3 M G4Si1 / G 42 2 C G4Si	G 46 2 M G2Mo / G 38 0 C G2M							W 38 3 W2Si	W 42 3 W3Si1	W 46 3 W4Si1	W 46 2 W2Mo					
		OK AristoRod 12.50	OK Autrod 12.51	OK AristoRod 12.57	OK Autrod 12.58	OK AristoRod 12.62	OK AristoRod 12.63	OK Autrod 12.64	OK AristoRod 13.09							OK Tigrod 12.60	OK Tigrod 12.61	OK Tigrod 12.64	OK Tigrod 13.09					
1.0252	L235	●	●	●	●	●	●	●	●							●	●	●	●					
1.0458	L235GA	●	●	●	●	●	●	●	●							●	●	●	●					
1.0345	P235GH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0112	P235S	●	●	●	●	●	●	●	●							●	●	●	●					
1.0253	P235TR1	●	●	●	●	●	●	●	●							●	●	●	●					
1.0254	P235TR2	●	●	●	●	●	●	●	●							●	●	●	●					
1.0114	S235J0	●	●	●	●	●	●	●	●							●	●	●	●					
1.0115	S235J0C	●	●	●	●	●	●	●	●							●	●	●	●					
1.0117	S235J2	●	●	●	●	●	●	●	●							●	●	●	●					
1.0119	S235J2C	●	●	●	●	●	●	●	●							●	●	●	●					
1.0116	S235J2G3	●	●	●	●	●	●	●	●							●	●	●	●					
1.0120	S235JRC	●	●	●	●	●	●	●	●							●	●	●	●					
1.0122	S235JRC	●	●	●	●	●	●	●	●							●	●	●	●					
1.0039	S235JRH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0038	S235JR	●	●	●	●	●	●	●	●							●	●	●	●					
1.0021	S240GP	●	●	●	●	●	●	●	●							●	●	●	●					
1.0459	L245GA	●	●	●	●	●	●	●	●							●	●	●	●					
1.0418	L245MB	●	●	●	●	●	●	●	●							●	●	●	●					
1.0457	L245NB	●	●	●	●	●	●	●	●							●	●	●	●					
1.0352	P245GH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0111	P245NB	●	●	●	●	●	●	●	●							●	●	●	●					
1.0460	P250GH (C22.8)	●	●	●	●	●	●	●	●							●	●	●	●					
1.0452	P255QL	●	●	○	○	○	●	●	○							○	●	○	○					
1.0971	S260NC	●	●	●	●	●	●	●	●							●	●	●	●					
1.0425	P265GH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0130	P265S	●	●	●	●	●	●	●	●							●	●	●	●					
1.0423	P265NB	●	●	●	●	●	●	●	●							●	●	●	●					
1.0453	P265NL	●	●	○	○	○	●	●	●							○	●	●	○					
1.0258	P265TR1	●	●	●	●	●	●	●	●							●	●	●	●					
1.0259	P265TR2	●	●	●	●	●	●	●	●							●	●	●	●					
1.0023	S270GP	●	●	●	●	●	●	●	●							●	●	●	●					
1.0260	L275	●	●	●	●	●	●	●	●							●	●	●	●					
1.0487	P275NH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0488	P275NL1	●	●				●	●	○							○	●	○	○					
1.1104	P275NL2	●	●				●	●	○							○	●	○	○					
1.1100	P275SL	●	●				●	●	○							○	●	○	○					
1.0143	S275J0	●	●	●	●	●	●	●	●							●	●	●	●					

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Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MAG														TIG								
		G 42 4 M G3Si1 / G 38 2 C G3Si	G 42 3 M G3Si1 / G 38 2 C G3Si	G 38 3 M G2Si / G 35 2 C G2Si	G 38 3 M G2Si / G 35 2 C G2Si	G 46 4 M G2Ti / G 42 3 C G2Ti	G 46 4 M G4Si1 / G 42 2 C G4Si	G 46 3 M G4Si1 / G 42 2 C G4Si	G 46 2 M G2Mo / G 38 0 C G2Mo							W 38 3 W2Si	W 42 3 W3Si1	W 46 3 W4Si1	W 46 2 W2Mo					
		OK AristoRod 12.50	OK Autrod 12.51	OK AristoRod 12.57	OK Autrod 12.58	OK AristoRod 12.62	OK AristoRod 12.63	OK Autrod 12.64	OK AristoRod 13.09							OK Tigrod 12.60	OK Tigrod 12.61	OK Tigrod 12.64	OK Tigrod 13.09					
1.0140	S275J0C	●	●	●	●	●	●	●	●							●	●	●	●					
1.0149	S275J0H	●	●	●	●	●	●	●	●							●	●	●	●					
1.0145	S275J2	●	●	●	●	●	●	●	●							●	●	●	●					
1.0142	S275J2C	●	●	●	●	●	●	●	●							●	●	●	●					
1.0138	S275J2H	●	●	●	●	●	●	●	●							●	●	●	●					
1.0044	S275JR	●	●	●	●	●	●	●	●							●	●	●	●					
1.0128	S275JRC	●	●	●	●	●	●	●	●							●	●	●	●					
1.8818	S275M	●	●	●	●	●	●	●	●							●	●	●	●					
1.8843	S275MH	●	●	●	●	●	●	●	●							●	●	●	●					
1.8819	S275ML	●	●	○	○	○	●	●	●							○	●	●	○					
1.8844	S275MLH	●	●	○	○	○	●	●	○							○	●	●	○					
1.0490	S275N	●	●	●	●	●	●	●	●							●	●	●	●					
1.0493	S275NH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0491	S275NL	●	●	○	○	○	●	●	●							○	●	●	○					
1.0497	S275NLH	●	●	○	○	○	●	●	○							○	●	●	○					
1.0426	P280GH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0477	P285NH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0478	P285QH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0483	L290GA (API 5L: X42)	●	●	●	●	●	●	●	●							●	●	●	●					
1.0429	L290MB (API 5L: X42)	●	●	●	●	●	●	●	●							●	●	●	●					
1.0484	L290NB (API 5L: X42)	●	●	●	●	●	●	●	●							●	●	●	●					
1.0050	E295 (St50-2)	○	○			●	○	○	●							○	○	○	●					
1.0481	P295GH (17Mn4)	●	●	●	●	●	●	●	●							●	●	●	●					
1.0436	P305GH	●	●	●	●	●	●	●	●							●	●	●	●					
1.0482	P310GH (19Mn5)	●	●	●	●	●	●	●	●							●	●	●	●					
1.0437	P310NB	●	●	●	●	●	●	●	●							●	●	●	●					
1.0972	S315MC	●	●	●	●	●	●	●	●							●	●	●	●					
1.0973	S315NC	●	●	●	●	●	●	●	●							●	●	●	●					
1.0046	S320GP	●	●	●	●	●	●	●	●							●	●	●	●					
1.0060	E335 (St60-2)					●			○										○					
1.0473	P355GH	●	●	●	●	●	●	●	●							●	●	●	●					
1.8821	P355M	●	●	●	●	●	●	●	●							●	●	●	●					
1.8832	P355ML1	●	●				●	●	○							○	●	○	○					
1.8833	P355ML2	●	●				●	●	○							○	●	○	○					
1.0562	P355N	●	●	●	●	●	●	●	●							●	●	●	●					
1.0557	P355NB	●	●	●	●	●	●	●	●							●	●	●	●					
1.0565	P355NH	●	●	●	●	●	●	●	●							●	●	●	●					

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MAG																TIG								
		G 42 4 M G3Si1 / G 38 2 C G3Si	G 42 3 M G3Si1 / G 38 2 C G3Si	G 38 3 M G2Si / G 35 2 C G2Si	G 38 3 M G2Si / G 35 2 C G2Si	G 46 4 M G2Ti / G 42 3 C G2Ti	G 46 4 M G4Si1 / G 42 2 C G4Si	G 46 3 M G4Si1 / G 42 2 C G4Si	G 46 2 M G2Mo / G 38 0 C G2M									W 38 3 W2Si	W 42 3 W3Si1	W 46 3 W4Si1	W 46 2 W2Mo						
		OK AristoRod 12.50	OK Autrod 12.51	OK AristoRod 12.57	OK Autrod 12.58	OK AristoRod 12.62	OK AristoRod 12.63	OK Autrod 12.64	OK AristoRod 13.09									OK Tigrod 12.60	OK Tigrod 12.61	OK Tigrod 12.64	OK Tigrod 13.09						
1.0566	P355NL1	●	●				●	●	○									○	●	○	○						
1.1106	P355NL2	●	●				●	●	○									○	●	○	○						
1.8866	P355Q	●	●	●	●	●	●	●	●									●	●	●	●						
1.8867	P355QH	●	●	●	●	●	●	●	●									●	●	●	●						
1.0571	P355QH1	●	●	●	●	●	●	●	●									●	●	●	●						
1.8868	P355QL1	●	●				●	●	○									○	●	○	○						
1.8869	P355QL2	●	●				●	●	○									○	●	○	○						
1.8814	S355G1 (+N)	●	●	●	●	●	●	●	●									●	●	●	●						
1.8801	S355G2+N	●	●			●	●	●	●									○	●	●	○						
1.8802	S355G3+N	●	●			●	●	●	●									○	●	●	○						
1.8803	S355G4 (+M)	●	●			●	●	●	●									○	●	●	○						
1.8804	S355G5+M	●	●			●	●	●	●									○	●	●	○						
1.8805	S355G6+M	●	●			●	●	●	●									○	●	●	○						
1.8808	S355G7+M (+N)	●	●			●	●	●	●									○	●	●	○						
1.8810	S355G8+M (+N)	●	●			●	●	●	●									○	●	●	○						
1.8811	S355G9+M (+N)	●	●			●	●	●	●									○	●	●	○						
1.8813	S355G10+M (+N)	●	●			●	●	●	●									○	●	●	○						
1.8806	S355G11 (+M) (+N)	●	●			●	●	●	●									○	●	●	○						
1.8809	S355G12 (+M) (+N)	●	●			●	●	●	●									○	●	●	○						
1.1182	S355G13+N (+Q)	●	●			●	●	●	●									○	●	●	○						
1.1184	S355G14+N (+Q)	●	●			●	●	●	●									○	●	●	○						
1.1190	S355G15+N (+Q)	●	●			●	●	●	●									○	●	●	○						
1.0083	S355GP	●	●	●	●	●	●	●	●									●	●	●	●						
1.0554	S355J0C	●	●	●	●	●	●	●	●									●	●	●	●						
1.0547	S355J0H	●	●	●	●	●	●	●	●									●	●	●	●						
1.0577	S355J2	●	●	●	●	●	●	●	●									●	●	●	●						
1.0579	S355J2C	●	●	●	●	●	●	●	●									●	●	●	●						
1.0570	S355J2G3	●	●	●	●	●	●	●	●									●	●	●	●						
1.0576	S355J2H	●	●	●	●	●	●	●	●									●	●	●	●						
1.0045	S355JR	●	●	●	●	●	●	●	●									●	●	●	●						
1.0551	S355JRC	●	●	●	●	●	●	●	●									●	●	●	●						
1.0596	S355K2	●	●	●	●	●	●	●	●									●	●	●	●						
1.0594	S355K2C	●	●	●	●	●	●	●	●									●	●	●	●						
1.0512	S355K2H	●	●	●	●	●	●	●	●									●	●	●	●						
1.8823	S355M	●	●	●	●	●	●	●	●									●	●	●	●						
1.0976	S355MC	●	●	●	●	●	●	●	●									●	●	●	●						
1.8845	S355MH	●	●	●	●	●	●	●	●									●	●	●	●						

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

		MAG																TIG									
Typ		G 42 4 M G3Si1 / G 38 2 C G3Si	G 42 3 M G3Si1 / G 38 2 C G3Si	G 38 3 M G2Si / G 35 2 C G2Si	G 38 3 M G2Si / G 35 2 C G2Si	G 46 4 M G2Ti / G 42 3 C G2Ti	G 46 4 M G4Si1 / G 42 2 C G4Si	G 46 3 M G4Si1 / G 42 2 C G4Si	G 46 2 M G2Mo / G 38 0 C G2Mo									W 38 3 W2Si	W 42 3 W3Si1	W 46 3 W4Si1	W 46 2 W2Mo							
Materiał dodatkowy / Materiał rodzimy		OK AristoRod 12.50	OK Autrod 12.51	OK AristoRod 12.57	OK Autrod 12.58	OK AristoRod 12.62	OK AristoRod 12.63	OK Autrod 12.64	OK AristoRod 13.09									OK Tigrod 12.60	OK Tigrod 12.61	OK Tigrod 12.64	OK Tigrod 13.09							
1.8834	S355ML	●	●	○	○	○	●	●	●									○	●	●	○							
1.8846	S355MLH	●	●	○	○	○	●	●	○									○	●	●	○							
1.0545	S355N	●	●	●	●	●	●	●	●									●	●	●	●							
1.0977	S355NC	●	●	●	●	●	●	●	●									●	●	●	●							
1.0539	S355NH	●	●	●	●	●	●	●	●									●	●	●	●							
1.0546	S355NL	●	●	○	○	○	●	●	●									○	●	●	○							
1.0549	S355NLH	●	●	○	○	●	●	●	○									○	●	●	○							
1.0070	E360 (St70-2)								○												○							
1.0499	L360GA (API 5L: X52)	●	●	●	●	●	●	●	●									●	●	●	●							
1.0578	L360MB (API 5L: X52)	●	●	●	●	●	●	●	●									●	●	●	●							
1.0582	L360NB (API 5L: X52)	●	●	●	●	●	●	●	●									●	●	●	●							
1.8948	L360QB (API 5L: X52)	●	●	●	●	●	●	●	●									●	●	●	●							
1.0522	S390GP	●	●			●	●	●	●										●	●	●							
1.8973	L415MB (API 5L: X60)	●	●			●	●	●	●										●	●	●							
1.8972	L415NB (API 5L: X60)	●	●			●	●	●	●										●	●	●							
1.8947	L415QB (API 5L: X60)	●	●			●	●	●	●										●	●	●							
1.0428	BSt 420 S / B420N	●	●			○	●	●	●										●	○	●							
1.8824	P420M	●	●			○	●	●	●										●	●	●							
1.8835	P420ML1	●	●				●	●	○										●	○	○							
1.8828	P420ML2	●	●				●	●	○										●	○	○							
1.8932	P420NH	●	●			●	●	●	●										●	●	●							
1.8936	P420QH	●	●			●	●	●	●										●	●	●							
1.8830	S420G1+M (+Q)	●	●			●	●	●	●										●	●	○							
1.8857	S420G2+M (+Q)	●	●			●	●	●	●										●	●	○							
1.8851	S420G3 (+M)	●	●			●	●	●	●										●	●	○							
1.8859	S420G4 (+M)	●	●			●	●	●	●										●	●	○							
1.8853	S420G5+Q	●	●			●	●	●	●										●	●	○							
1.8852	S420G6+Q	●	●			●	●	●	●										●	●	○							
1.8825	S420M	●	●			●	●	●	●										●	●	●							
1.0980	S420MC	●	●			●	●	●	●										●	●	●							
1.8847	S420MH	●	●			●	●	●	●										●	●	●							
1.8836	S420ML	●	●			○	●	●	●										●	●	○							
1.8848	S420MLH	●	●			○	●	●	○										●	●	○							
1.8902	S420N	●	●			●	●	●	●										●	●	●							
1.0981	S420NC	●	●			●	●	●	●										●	●	●							
1.8750	S420NH	●	●			●	●	●	●										●	●	●							
1.8912	S420NL	●	●			○	●	●	●										●	●	○							

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		MAG																TIG									
		G 42 4 M G3Si1 / G 38 2 C G3Si	G 42 3 M G3Si1 / G 38 2 C G3Si	G 38 3 M G2Si1 / G 35 2 C G2Si	G 38 3 M G2Si / G 35 2 C G2Si	G 46 4 M G2Ti / G 42 3 C G2Ti	G 46 4 M G4Si1 / G 42 2 C G4Si	G 46 3 M G4Si1 / G 42 2 C G4Si	G 46 2 M G2Mo / G 38 0 C G2M									W 38 3 W2Si	W 42 3 W3Si1	W 46 3 W4Si1	W 46 2 W2Mo							
		OK AristoRod 12.50	OK Autrod 12.51	OK AristoRod 12.57	OK Autrod 12.58	OK AristoRod 12.62	OK AristoRod 12.63	OK Autrod 12.64	OK AristoRod 13.09									OK Tigrod 12.60	OK Tigrod 12.61	OK Tigrod 12.64	OK Tigrod 13.09							
1.8751	S420NLH	●	●			○	●	●	○										●	●	○							
1.0523	S430GP	●	●			●	●	●	●										●	●	●							
1.8975	L450MB (API 5L: X65)					●	●	●	●											●	●							
1.8952	L450QB (API 5L: X65)					●	●	●	●											●	●							
1.8826	P460M					●	●	●	●											●	●							
1.8837	P460ML1						●	●	○											●	○							
1.8831	P460ML2						●	●	○											●	○							
1.8905	P460N					●	●	●	●											●	●							
1.8935	P460NH					●	●	●	●											●	●							
1.8915	P460NL1						●	●	○											●	○							
1.8918	P460NL2						●	●	○											●	○							
1.8870	P460Q					●	●	●	●											●	●							
1.8871	P460QH					●	●	●	●											●	●							
1.8872	P460QL1						●	●	○											●	○							
1.8864	P460QL2						●	●	○											●	○							
1.8878	S460G1+M (+Q)					●	●	●	●											●	○							
1.8887	S460G2+M (+Q)					●	●	●	●											●	○							
1.8883	S460G3 (+M)					●	●	●	●											●	○							
1.8889	S460G4 (+M)					●	●	●	●											●	○							
1.8885	S460G5+Q					●	●	●	●											●	○							
1.8884	S460G6+Q					●	●	●	●											●	○							
1.8827	S460M					●	●	●	●											●	●							
1.0982	S460MC					●	●	●	●											●	●							
1.8849	S460MH					●	●	●	●											●	●							
1.8838	S460ML					○	●	●	●											●	○							
1.4850	S460MLH					○	●	●	○											●	○							
1.8901	S460N					●	●	●	●											●	●							
1.8953	S460NH					●	●	●	●											●	●							
1.8903	S460NL					○	●	●	●											●	○							
1.8956	S460NLH					○	●	●	○											●	○							
1.8908	S460Q					●	●	●	●											●	●							
1.8906	S460QL					○	●	●	●											●	○							
1.8916	S460QL1						○	○	○											○	○							
1.8977	L485MB (API 5L: X70)						○	○	○											○	○							
1.8955	L485QB (API 5L: X70)						○	○	○											○	○							
1.0438	BSt 500 S / B500N	●	●			○	●	●	●										●	○	●							
1.0466	BSt 500 M / B500G3	●	●			○	●	●	●										●	○	●							

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○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

		MAG																TIG								
Typ		G 42 4 M G3Si1 / G 38 2 C G3Si	G 42 3 M G3Si1 / G 38 2 C G3Si	G 38 3 M G2Si / G 35 2 C G2Si	G 38 3 M G2Si / G 35 2 C G2Si	G 46 4 M G2Ti / G 42 3 C G2Ti	G 46 4 M G4Si1 / G 42 2 C G4Si	G 46 3 M G4Si1 / G 42 2 C G4Si	G 46 2 M G2Mo / G 38 0 C G2M									W 38 3 W2Si	W 42 3 W3Si1	W 46 3 W4Si1	W 46 2 W2Mo					
Materiał dodatkowy / Materiał rodzimy		OK AristoRod 12.50	OK Autrod 12.51	OK AristoRod 12.57	OK Autrod 12.58	OK AristoRod 12.62	OK AristoRod 12.63	OK Autrod 12.64	OK AristoRod 13.09									OK Tigrod 12.60	OK Tigrod 12.61	OK Tigrod 12.64	OK Tigrod 13.09					
1.0420	GE200 (GS-38)						○	○	●									○	○	●						
1.0449	GS200						○	○	●									○	○	●						
1.0445	GE240 (GS-45)						○	○	●										○	●						
1.0455	GS240						○	○	●										○	●						
1.0558	GE300 (GS-60)								●											●						
1.1131	G17Mn5						○	○	●									○	○	●						
1.0440	GL-A (S235JRS1)	●	●		●		●	●												●						
1.0441	GL-A (S235JRS2)	●	●		●		●	●												●						
1.0442	GL-B (S235J0S)	●	●		●		●	●												●						
1.0474	GL-D (S235J2S2)	●	●		●		●	●												●						
1.0475	GL-D (S235J2S1)	●	●		●		●	●												●						
1.0476	GL-E (S235J4S)	●	●		●		●	●												●						
1.0513	GL-A 32 (S315G1S)	●	●		●		●	●												●						
1.0514	GL-D 32 (S315G2S)	●	●		●		●	●												●						
1.0515	GL-E 32 (S315G3S)	●	●		●		●	●												●						
1.0583	GL-A 36 (S355G1S)	●	●		●		●	●												●						
1.0584	GL-D 36 (S355G2S)	●	●		●		●	●												●						
1.0589	GL-E 36 (S355G3S)	●	●		●		●	●												●						
1.1151	C22E	●	●	●	●	●	●	●	●									●	●	●	●					
1.1158	C25E	●	●	●	●	●	●	●	●									●	●	●	●					
1.0528	C 30						○	○	●										○	○	●					
1.1178	C30E						○	○	●										○	○	●					
1.0501	C 35						○	○	●										○	○	●					
1.1181	C35E						○	○	●										○	○	●					
1.0511	C 40								●												●					
1.1186	C40E								●												●					
1.0503	C 45								●												●					
1.1191	C45E								●												●					

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		FCAW																								
Materiał dodatkowy / Materiał rodzimy		Coreshield 8	Coreshield 15	OK Tubrod 14.10	OK Tubrod 14.11	OK Tubrod 14.12	OK Tubrod 14.13	OK Tubrod 15.00	OK Tubrod 15.06	OK Tubrod 15.13	OK Tubrod 15.14	PZ 6104	PZ 6111	PZ 6113	PZ 6113-S	PZ 6114	PZ 6114-S	PZ 6116-S	PZ 6125	PZ 6130 HS	PZ 6138				
		T 42 2 Y N 2	T 35 Z Z Y N 1	T 46 4 M M 2 H5	T 42 4 M M 3 H5	T 42 2 M M 1 / T 42 2 M C 1	T 42 2 M M 2 H5	T 42 3 B M 2 H5 / T 42 3 B C 2 H5	T 42 6 1Ni B M 1 H5	T 46 2 P M 1 / T 42 2 P C 1 H5	T 46 2 P M 2 / T 46 2 P C 2	T 42 5 Z M M 2 H5	T 46 2 1Ni R M 3 / T 42 2 1Ni R C	T 46 2 P M 1 H10 / T 42 2 P C 1 H	T 46 3 P C 2 H5	T 46 4 P M 1 H5	T 46 4 P C 1 H5	T 46 6 1,5Ni P C 1 H5	T 42 6 1Ni B M 1 H5	T 42 4 B M 3 H5 / T 42 4 B C 5 H5	T 46 5 1Ni P M 1 H5				
1.0252	L235	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0458	L235GA	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0345	P235GH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0112	P235S	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0253	P235TR1	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0254	P235TR2	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0114	S235J0	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0115	S235J0C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0117	S235J2	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0119	S235J2C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0116	S235J2G3	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0120	S235JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0122	S235JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0039	S235JRH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0038	S235JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0021	S240GP	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0459	L245GA	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0418	L245MB	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0457	L245NB	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0352	P245GH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0111	P245NB	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0460	P250GH (C22.8)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0452	P255QL	○	○	○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●			
1.0971	S260NC	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0425	P265GH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0130	P265S	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0423	P265NB	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0453	P265NL	○	○	○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●			
1.0258	P265TR1	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0259	P265TR2	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0023	S270GP	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0260	L275	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0487	P275NH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
1.0488	P275NL1	○		○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●			
1.1104	P275NL2	○		○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●			

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		FCAW																								
		T 42 2 Y N 2	T 35 Z Z Y N 1	T 46 4 M M 2 H5	T 42 4 M M 3 H5	T 42 2 M M 1 / T 42 2 M C 1	T 42 2 M M 2 H5	T 42 3 B M 2 H5 / T 42 3 B C 2 H5	T 42 6 1Ni B M 1 H5	T 46 2 P M 1 / T 42 2 P C 1 H5	T 46 2 P M 2 / T 46 2 P C 2	T 42 5 Z MM 2 H5	T 46 2 1Ni R M 3 / T 42 2 1Ni R C	T 46 2 P M 1 H10 / T 42 2 P C 1 H	T 46 3 P C 2 H5	T 46 4 P M 1 H5	T 46 4 P C 1 H5	T 46 6 1.5Ni P C 1 H5	T 42 6 1Ni B M 1 H5	T 42 4 B M 3 H5 / T 42 4 B C 5 H5	T 46 5 1Ni P M 1 H5				
		Coreshield 8	Coreshield 15	OK Tubrod 14.10	OK Tubrod 14.11	OK Tubrod 14.12	OK Tubrod 14.13	OK Tubrod 15.00	OK Tubrod 15.06	OK Tubrod 15.13	OK Tubrod 15.14	PZ 6104	PZ 6111	PZ 6113	PZ 6113-S	PZ 6114	PZ 6114-S	PZ 6116-S	PZ 6125	PZ 6130 HS	PZ 6138				
1.1100	P275SL	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●				
1.0143	S275J0	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0140	S275J0C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0149	S275J0H	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0145	S275J2	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0142	S275J2C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0138	S275J2H	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0044	S275JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0128	S275JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8818	S275M	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8843	S275MH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8819	S275ML	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●				
1.8844	S275MLH	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●				
1.0490	S275N	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0493	S275NH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0491	S275NL	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●				
1.0497	S275NLH	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●				
1.0426	P280GH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0477	P285NH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0478	P285QH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0483	L290GA (API 5L: X42)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0429	L290MB (API 5L: X42)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0484	L290NB (API 5L: X42)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0050	E295 (St50-2)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0481	P295GH (17Mn4)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0436	P305GH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0482	P310GH (19Mn5)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0437	P310NB	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0972	S315MC	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0973	S315NC	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0046	S320GP	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0060	E335 (St60-2)	●						●	●										●	●					
1.0473	P355GH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8821	P355M	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8832	P355ML1	○		○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●				

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

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Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		FCAW																												
Materiał dodatkowy / Materiał rodzimy		Coreshield 8	Coreshield 15	OK Tubrod 14.10	OK Tubrod 14.11	OK Tubrod 14.12	OK Tubrod 14.13	OK Tubrod 15.00	OK Tubrod 15.06	OK Tubrod 15.13	OK Tubrod 15.14	PZ 6104	PZ 6111	PZ 6113	PZ 6113-S	PZ 6114	PZ 6114-S	PZ 6116-S	PZ 6125	PZ 6130 HS	PZ 6138									
		T 42 2 Y N 2	T 35 Z Z Y N 1	T 46 4 M M 2 H5	T 42 4 M M 3 H5	T 42 2 M M 1 / T 42 2 M C 1	T 42 2 M M 2 H5	T 42 3 B M 2 H5 / T 42 3 B C 2 H5	T 42 6 1Ni B M 1 H5	T 46 2 P M 1 / T 42 2 P C 1 H5	T 46 2 P M 2 / T 46 2 P C 2	T 42 5 Z M M 2 H5	T 46 2 1Ni R M 3 / T 42 2 1Ni R C	T 46 2 P M 1 H10 / T 42 2 P C 1 H	T 46 3 P C 2 H5	T 46 4 P M 1 H5	T 46 4 P C 1 H5	T 46 6 1,5Ni P C 1 H5	T 42 6 1Ni B M 1 H5	T 42 4 B M 3 H5 / T 42 4 B C 5 H5	T 46 5 1Ni P M 1 H5									
1.8833	P355ML2	○		○	○	○	○	○	●	○	○	●	○	○	○	○	●	●	●	○	●									
1.0562	P355N	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0557	P355NB	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0565	P355NH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0566	P355NL1	○		○	○	○	○	○	●	○	○	●	○	○	○	○	●	●	●	○	●									
1.1106	P355NL2	○		○	○	○	○	○	●	○	○	●	○	○	○	○	●	●	●	○	●									
1.8866	P355Q	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.8867	P355QH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0571	P355QH1	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.8868	P355QL1	○		○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●									
1.8869	P355QL2	○		●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	○	●									
1.8814	S355G1 (+N)			○	○				●			●				○	○	●	●	○	●									
1.8801	S355G2+N			○	○				●			●				○	○	●	●	○	●									
1.8802	S355G3+N			○	○				●			●				○	○	●	●	○	●									
1.8803	S355G4 (+M)			○	○				●			●				○	○	●	●	○	●									
1.8804	S355G5+M			○	○				●			●				○	○	●	●	○	●									
1.8805	S355G6+M			○	○				●			●				○	○	●	●	○	●									
1.8808	S355G7+M (+N)			○	○				●			●				○	○	●	●	○	●									
1.8810	S355G8+M (+N)			○	○				●			●				○	○	●	●	○	●									
1.8811	S355G9+M (+N)			○	○				●			●				○	○	●	●	○	●									
1.8813	S355G10+M (+N)			○	○				●			●				○	○	●	●	○	●									
1.8806	S355G11 (+M) (+N)			○	○				●			●				○	○	●	●	○	●									
1.8809	S355G12 (+M) (+N)			○	○				●			●				○	○	●	●	○	●									
1.1182	S355G13+N (+Q)			○	○				●			●				○	○	●	●	○	●									
1.1184	S355G14+N (+Q)			○	○				●			●				○	○	●	●	○	●									
1.1190	S355G15+N (+Q)			○	○				●			●				○	○	●	●	○	●									
1.0083	S355GP	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0554	S355J0C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0547	S355J0H	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0577	S355J2	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0579	S355J2C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0570	S355J2G3	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0576	S355J2H	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0045	S355JR	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
1.0551	S355JRC	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		FCAW																								
		T 42 2 Y N 2	T 35 Z Z Y N 1	T 46 4 M M 2 H5	T 42 4 M M 3 H5	T 42 2 M M 1 / T 42 2 M C 1	T 42 2 M M 2 H5	T 42 3 B M 2 H5 / T 42 3 B C 2 H5	T 42 6 1Ni B M 1 H5	T 46 2 P M 1 / T 42 2 P C 1 H5	T 46 2 P M 2 / T 46 2 P C 2	T 42 5 Z MM 2 H5	T 46 2 1Ni R M 3 / T 42 2 1Ni R C	T 46 2 P M 1 H10 / T 42 2 P C 1 H												
		Coreshield 8	Coreshield 15	OK Tubrod 14.10	OK Tubrod 14.11	OK Tubrod 14.12	OK Tubrod 14.13	OK Tubrod 15.00	OK Tubrod 15.06	OK Tubrod 15.13	OK Tubrod 15.14	PZ 6104	PZ 6111	PZ 6113	PZ 6113-S	PZ 6114	PZ 6114-S	PZ 6116-S	PZ 6125	PZ 6130 HS	PZ 6138					
1.0596	S355K2	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0594	S355K2C	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0512	S355K2H	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8823	S355M	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0976	S355MC	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8845	S355MH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8834	S355ML	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●					
1.8846	S355MLH	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●					
1.0545	S355N	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0977	S355NC	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0539	S355NH	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0546	S355NL	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●					
1.0549	S355NLH	○	○	●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●					
1.0070	E360 (St70-2)							●	●										●	●						
1.0499	L360GA (API 5L: X52)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0578	L360MB (API 5L: X52)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0582	L360NB (API 5L: X52)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8948	L360QB (API 5L: X52)	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0522	S390GP	○		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8973	L415MB (API 5L: X60)			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8972	L415NB (API 5L: X60)			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8947	L415QB (API 5L: X60)			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.0428	BSt 420 S / B420N	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8824	P420M			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8835	P420ML1			○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●					
1.8828	P420ML2			○	○	○	○	○	●	○	○	●	○	○	○	○	○	●	●	○	●					
1.8932	P420NH			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8936	P420QH			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
1.8830	S420G1+M (+Q)			○	○				●			●				○	○	●	●	○	●					
1.8857	S420G2+M (+Q)			○	○				●			●				○	○	●	●	○	●					
1.8851	S420G3 (+M)			○	○				●			●				○	○	●	●	○	●					
1.8859	S420G4 (+M)			○	○				●			●				○	○	●	●	○	●					
1.8853	S420G5+Q			○	○				●			●				○	○	●	●	○	●					
1.8852	S420G6+Q			○	○				●			●				○	○	●	●	○	●					
1.8825	S420M			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

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Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		FCAW																												
		T 42 2 Y N 2	T 35 Z Y N 1	T 46 4 M M 2 H5	T 42 4 M M 3 H5	T 42 2 M M 1 / T 42 2 M C 1	T 42 2 M M 2 H5	T 42 3 B M 2 H5 / T 42 3 B C 2 H5	T 42 6 1Ni B M 1 H5	T 46 2 P M 1 / T 42 2 P C 1 H5	T 46 2 P M 2 / T 46 2 P C 2	T 42 5 Z M M 2 H5	T 46 2 1Ni R M 3 / T 42 2 1Ni R C	T 46 2 P M 1 H10 / T 42 2 P C 1 H	T 46 3 P C 2 H5	T 46 4 P M 1 H5	T 46 4 P C 1 H5	T 46 6 1,5Ni P C 1 H5	T 42 6 1Ni B M 1 H5	T 42 4 B M 3 H5 / T 42 4 B C 5 H5	T 46 5 1Ni P M 1 H5								
		Coreshield 8	Coreshield 15	OK Tubrod 14.10	OK Tubrod 14.11	OK Tubrod 14.12	OK Tubrod 14.13	OK Tubrod 15.00	OK Tubrod 15.06	OK Tubrod 15.13	OK Tubrod 15.14	PZ 6104	PZ 6111	PZ 6113	PZ 6113-S	PZ 6114	PZ 6114-S	PZ 6116-S	PZ 6125	PZ 6130 HS	PZ 6138								
1.0980	S420MC			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
1.8847	S420MH			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
1.8836	S420ML			●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●								
1.8848	S420MLH			●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●								
1.8902	S420N			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
1.0981	S420NC			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
1.8750	S420NH			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
1.8912	S420NL			●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●								
1.8751	S420NLH			●	●	○	○	○	●	○	○	●	○	○	○	●	●	●	●	●	●								
1.0523	S430GP	○		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
1.8975	L450MB (API 5L: X65)			●						●	●		●	●	●	●	●	●			●								
1.8952	L450QB (API 5L: X65)			●						●	●		●	●	●	●	●	●			●								
1.8826	P460M			●						●	●		●	●	●	●	●	●			●								
1.8837	P460ML1			○						○	○		○	○	○	○	○	●			●								
1.8831	P460ML2			○						○	○		○	○	○	○	○	●			●								
1.8905	P460N			●						●	●		●	●	●	●	●	●			●								
1.8935	P460NH			●						●	●		●	●	●	●	●	●			●								
1.8915	P460NL1			○						○	○		○	○	○	○	○	●			●								
1.8918	P460NL2			○						○	○		○	○	○	○	○	●			●								
1.8870	P460Q			●						●	●		●	●	●	●	●	●			●								
1.8871	P460QH			●						●	●		●	●	●	●	●	●			●								
1.8872	P460QL1			○						○	○		○	○	○	○	○	●			●								
1.8864	P460QL2			○						○	○		○	○	○	○	○	●			●								
1.8878	S460G1+M (+Q)			○													○	○	●		●								
1.8887	S460G2+M (+Q)			○													○	○	●		●								
1.8883	S460G3 (+M)			○													○	○	●		●								
1.8889	S460G4 (+M)			○													○	○	●		●								
1.8885	S460G5+Q			○													○	○	●		●								
1.8884	S460G6+Q			○													○	○	●		●								
1.8827	S460M			●						●	●		●	●	●	●	●	●			●								
1.0982	S460MC			●						●	●		●	●	●	●	●	●			●								
1.8849	S460MH			●						●	●		●	●	●	●	●	●			●								
1.8838	S460ML			○						○	○		○	○	○	○	○	●			●								
1.4850	S460MLH			○						○	○		○	○	○	○	○	●			●								
1.8901	S460N			●						●	●		●	●	●	●	●	●			●								

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○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Materiał dodatkowy / Materiał rodzimy		FCAW																							
		T 42 2 Y N 2	T 35 Z Z Y N 1	T 46 4 M M 2 H5	T 42 4 M M 3 H5	T 42 2 M M 1 / T 42 2 M C 1	T 42 2 M M 2 H5	T 42 3 B M 2 H5 / T 42 3 B C 2 H5	T 42 6 1Ni B M 1 H5	T 46 2 P M 1 / T 42 2 P C 1 H5	T 46 2 P M 2 / T 46 2 P C 2	T 42 5 Z M M 2 H5	T 46 2 1Ni R M 3 / T 42 2 1Ni R C	T 46 2 P M 1 H10 / T 42 2 P C 1 H	T 46 3 P C 2 H5	T 46 4 P M 1 H5	T 46 4 P C 1 H5	T 46 6 1,5Ni P C 1 H5	T 42 6 1Ni B M 1 H5	T 42 4 B M 3 H5 / T 42 4 B C 5 H5	T 46 5 1Ni P M 1 H5			
		Coreshield 8	Coreshield 15	OK Tubrod 14.10	OK Tubrod 14.11	OK Tubrod 14.12	OK Tubrod 14.13	OK Tubrod 15.00	OK Tubrod 15.06	OK Tubrod 15.13	OK Tubrod 15.14	PZ 6104	PZ 6111	PZ 6113	PZ 6113-S	PZ 6114	PZ 6114-S	PZ 6116-S	PZ 6125	PZ 6130 HS	PZ 6138				
1.0440	GL-A (S235JRS1)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0441	GL-A (S235JRS2)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0442	GL-B (S235J0S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0474	GL-D (S235J2S2)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0475	GL-D (S235J2S1)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0476	GL-E (S235J4S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0513	GL-A 32 (S315G1S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0514	GL-D 32 (S315G2S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0515	GL-E 32 (S315G3S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8840	GL-F 32 (S315G4S)			●	●				●			●			●	●	●	●	●		●				
1.0583	GL-A 36 (S355G1S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0584	GL-D 36 (S355G2S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.0589	GL-E 36 (S355G3S)	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
1.8841	GL-F 36 (S355G4S)			●	●				●			●			●	●	●	●	●		●				
1.0532	GL-A 40 (S390G1S)				●							●			●			●							
1.0534	GL-D 40 (S390G2S)				●							●			●			●							
1.0560	GL-E 40 (S390G3S)				●							●			●			●							
1.8842	GL-F 40 (S390G4S)				●							●			●			●							
1.0521	R200 (StSch 700)							●																	
1.0524	R220 (StSch 800)							●																	
1.0623	R260 (StSch 900A)							●																	
1.0624	R260Mn (StSch 900B)							●																	

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○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

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Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		SAW																										
		S 35 0 MS S1	S 35 2 MS S1	S 35 4 AB S1	S 38 0 CS S1	S 42 A AR S1	S 35 A AR S1	S 38 0 MS S2	S 35 3 AB S2	S 38 4 AB S2	S 38 5 AB S2	S 46 0 AR S2	S 42 2 AR S2	S 38 2 MS S2Si	S 38 5 FB S2Si	S 38 4 AB S2Si	S 38 5 AB S2Si	S 42 Z AR S2Si	S 46 2 AB S2Mo	S 46 3 AB S2Mo	S 35 2 FB S3	S 46 3 AB S3	S 42 5 FB S3Si	S 46 6 FB S3Si	S 42 2 AB T3	S 42 4 AB T3	S 46 5 AB T3Ni	
Topnik		10.40	10.45	10.71	10.80	10.81	10.87	10.40	10.47	10.71	10.72	10.81	10.88	10.45	10.62	10.71	10.72	10.83	10.71	10.72	10.61	10.71	10.61	10.62	10.71	10.71	10.47	
Drut		OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.24	OK Autrod 12.24	OK Autrod 12.30	OK Autrod 12.30	OK Autrod 12.32	OK Autrod 12.32	OK Tubrod 14.00	OK Tubrod 15.00	OK Tubrod 15.24	
Materiał rodzimy																												
1.0252	L235	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0458	L235GA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0345	P235GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0112	P235S	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0253	P235TR1	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0254	P235TR2	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0114	S235J0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0115	S235J0C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0117	S235J2	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0119	S235J2C	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0116	S235J2G3	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0120	S235JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0122	S235JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0039	S235JRH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0038	S235JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0021	S240GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0459	L245GA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0418	L245MB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0457	L245NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0352	P245GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0111	P245NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0460	P250GH (C22.8)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0452	P255QL		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.0971	S260NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0425	P265GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0130	P265S	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0423	P265NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0453	P265NL		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.0258	P265TR1	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0259	P265TR2	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0023	S270GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0260	L275	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0487	P275NH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0488	P275NL1		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.1104	P275NL2		○	○					○	○	●		○		●	○	●		○	●	○	○	●	●	○	○	●	
1.1100	P275SL		○	○					○	○	●		○		●	○	●		○	●	○	○	●	●	○	○	●	
1.0143	S275J0	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

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○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		SAW																									
		S 35 0 MS S1	S 35 2 MS S1	S 35 4 AB S1	S 38 0 CS S1	S 42 A AR S1	S 35 A AR S1	S 38 0 MS S2	S 35 3 AB S2	S 38 4 AB S2	S 38 5 AB S2	S 46 0 AR S2	S 42 2 AR S2	S 38 2 MS S2Si	S 38 5 FB S2Si	S 38 4 AB S2Si	S 38 5 AB S2Si	S 42 Z AR S2Si	S 46 2 AB S2Mo	S 46 3 AB S2Mo	S 35 2 FB S3	S 46 3 AB S3	S 42 5 FB S3Si	S 46 6 FB S3Si	S 42 2 AB T3	S 42 4 AB T3	S 46 5 AB T3Ni
Topnik		10.40	10.45	10.71	10.80	10.81	10.87	10.40	10.47	10.71	10.72	10.81	10.88	10.45	10.62	10.71	10.72	10.83	10.71	10.72	10.61	10.71	10.61	10.62	10.71	10.71	10.47
Drut / Materiał rodzimy		OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.24	OK Autrod 12.24	OK Autrod 12.30	OK Autrod 12.30	OK Autrod 12.32	OK Autrod 12.32	OK Tubrod 14.00	OK Tubrod 15.00	OK Tubrod 15.24
1.0140	S275J0C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0149	S275J0H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0145	S275J2	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●
1.0142	S275J2C	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●
1.0138	S275J2H	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●
1.0044	S275JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0128	S275JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.8818	S275M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.8843	S275MH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.8819	S275ML		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●
1.8844	S275MLH		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●
1.0490	S275N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0493	S275NH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0491	S275NL		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●
1.0497	S275NLH		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●
1.0426	P280GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0477	P285NH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0478	P285QH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0483	L290GA (API 5L: X42)		●	●					●	●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●
1.0429	L290MB (API 5L: X42)		●	●					●	●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●
1.0484	L290NB (API 5L: X42)		●	●					●	●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●
1.0050	E295 (St50-2)								●	●	●				●	●	●		●	●	●	●	●	●	●	●	●
1.0481	P295GH (17Mn4)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0436	P305GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0482	P310GH (19Mn5)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0437	P310NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0972	S315MC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0973	S315NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0046	S320GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0060	E335 (St60-2)																		●	●	●	●	●		●	●	
1.0473	P355GH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.8821	P355M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.8832	P355ML1		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●
1.8833	P355ML2		○	○					○	○	●		○		●	●	●		○	●	○	○	●	●	○	○	●
1.0562	P355N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0557	P355NB	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1.0565	P355NH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

K

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		SAW																																
		S 35 0 MS S1	S 35 2 MS S1	S 35 4 AB S1	S 38 0 CS S1	S 42 A AR S1	S 35 A AR S1	S 38 0 MS S2	S 35 3 AB S2	S 38 4 AB S2	S 38 5 AB S2	S 46 0 AR S2	S 42 2 AR S2	S 38 2 MS S2Si	S 38 5 FB S2Si	S 38 4 AB S2Si	S 38 5 AB S2Si	S 42 Z AR S2Si	S 46 2 AB S2Mo	S 46 3 AB S2Mo	S 35 2 FB S3	S 46 3 AB S3	S 42 5 FB S3Si	S 46 6 FB S3Si	S 42 2 AB T3	S 42 4 AB T3	S 46 5 AB T3Ni	
Topnik / Drut / Materiał rodzimy		10.40	10.45	10.71	10.80	10.81	10.87	10.40	10.47	10.71	10.72	10.81	10.88	10.45	10.62	10.71	10.72	10.83	10.71	10.72	10.61	10.71	10.61	10.62	10.71	10.71	10.47	
		OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.24	OK Autrod 12.24	OK Autrod 12.30	OK Autrod 12.30	OK Autrod 12.32	OK Autrod 12.32	OK Tubrod 14.00	OK Tubrod 15.00	OK Tubrod 15.24	
1.0566	P355NL1		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.1106	P355NL2		○	○					○	○	●		○		●	○	●		○	●	○	○	●	●	○	○	●	
1.8866	P355Q	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.8867	P355QH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0571	P355QH1	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.8868	P355QL1		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.8869	P355QL2		○	○					○	○	●		○		●	●	●		○	●	○	○	●	●	○	○	●	
1.8814	S355G1 (+N)			●						●	●				●	●	●		●	●	●	●	●	●	●	●	●	
1.8801	S355G2+N										●						●						●	●		●	●	
1.8802	S355G3+N										●						●						●	●		●	●	
1.8803	S355G4 (+M)										●						●						●	●		●	●	
1.8804	S355G5+M										●						●						●	●		●	●	
1.8805	S355G6+M										●						●						●	●		●	●	
1.8808	S355G7+M (+N)										●						●						●	●		●	●	
1.8810	S355G8+M (+N)										●						●						●	●		●	●	
1.8811	S355G9+M (+N)										●						●						●	●		●	●	
1.8813	S355G10+M (+N)										●						●						●	●		●	●	
1.8806	S355G11 (+M) (+N)										●						●						●	●		●	●	
1.8809	S355G12 (+M) (+N)										●						●						●	●		●	●	
1.1182	S355G13+N (+Q)										●						●						●	●		●	●	
1.1184	S355G14+N (+Q)										●						●						●	●		●	●	
1.1190	S355G15+N (+Q)										●						●						●	●		●	●	
1.0083	S355GP	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0554	S355J0C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0547	S355J0H	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0577	S355J2	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0579	S355J2C	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0570	S355J2G3	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0576	S355J2H	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0045	S355JR	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0551	S355JRC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0596	S355K2	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0594	S355K2C	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.0512	S355K2H	○	●	●	○	○	○	○	●	●	●	○	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	
1.8823	S355M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0976	S355MC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.8845	S355MH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ		SAW																														
		S 35 0 MS S1	S 35 2 MS S1	S 35 4 AB S1	S 38 0 CS S1	S 42 A AR S1	S 35 A AR S1	S 38 0 MS S2	S 35 3 AB S2	S 38 4 AB S2	S 38 5 AB S2	S 46 0 AR S2	S 42 2 AR S2	S 38 2 MS S2Si	S 38 5 FB S2Si	S 38 4 AB S2Si	S 38 5 AB S2Si	S 42 Z AR S2Si	S 46 2 AB S2Mo	S 46 3 AB S2Mo	S 35 2 FB S3	S 46 3 AB S3	S 42 5 FB S3Si	S 46 6 FB S3Si	S 42 2 AB T3	S 42 4 AB T3	S 46 5 AB T3Ni	
Topnik / Drut / Materiał rodzimy		10.40	10.45	10.71	10.80	10.81	10.87	10.40	10.47	10.71	10.72	10.81	10.88	10.45	10.62	10.71	10.72	10.83	10.71	10.72	10.61	10.71	10.61	10.62	10.71	10.71	10.47	
		OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.24	OK Autrod 12.24	OK Autrod 12.30	OK Autrod 12.30	OK Autrod 12.32	OK Autrod 12.32	OK Tubrod 14.00	OK Tubrod 15.00	OK Tubrod 15.24	
1.8834	S355ML		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.8846	S355MLH		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.0545	S355N	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0977	S355NC	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0539	S355NH	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
1.0546	S355NL		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.0549	S355NLH		○	●					○	●	●		○		●	●	●		○	●	○	●	●	●	○	●	●	
1.0070	E360 (St70-2)																						○	○		○	○	
1.0499	L360GA (API 5L: X52)		●	●						●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●	
1.0578	L360MB (API 5L: X52)		●	●						●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●	
1.0582	L360NB (API 5L: X52)		●	●						●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●	
1.8948	L360QB (API 5L: X52)		●	●						●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●	
1.0522	S390GP				●	●		●		●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	
1.8973	L415MB (API 5L: X60)																		●	●		●	●	●	●	●	●	
1.8972	L415NB (API 5L: X60)																		●	●		●	●	●	●	●	●	
1.8947	L415QB (API 5L: X60)																		●	●		●	●	●	●	●	●	
1.8824	P420M																		●	●		●	●	●	●	●	●	
1.8835	P420ML1																		○	●		○	●	●	○	●	●	
1.8828	P420ML2																		○	●		○	●	●	○	○	●	
1.8932	P420NH																		●	●		●	●	●	●	●	●	
1.8936	P420QH																		●	●		●	●	●	●	●	●	
1.8830	S420G1+M (+Q)																						●	●			●	
1.8857	S420G2+M (+Q)																						●	●			●	
1.8851	S420G3 (+M)																						●	●			●	
1.8859	S420G4 (+M)																						●	●			●	
1.8853	S420G5+Q																						●	●			●	
1.8852	S420G6+Q																						●	●			●	
1.8825	S420M																		●	●		●	●	●	●	●	●	
1.0980	S420MC																		●	●		●	●	●	●	●	●	
1.8847	S420MH																		●	●		●	●	●	●	●	●	
1.8836	S420ML																		○	●		○	●	●	○	●	●	
1.8848	S420MLH																		○	●		○	●	●	○	●	●	
1.8902	S420N																		●	●		●	●	●	●	●	●	
1.0981	S420NC																		●	●		●	●	●	●	●	●	
1.8750	S420NH																		●	●		●	●	●	●	●	●	
1.8912	S420NL																		○	●		○	●	●	○	●	●	
1.8751	S420NLH																		○	●		○	●	●	○	●	●	

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

K

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Topnik / Drut / Materiał rodzimy		SAW																												
		S 35 0 MS S1	S 35 2 MS S1	S 35 4 AB S1	S 38 0 CS S1	S 42 A AR S1	S 35 A AR S1	S 38 0 MS S2	S 35 3 AB S2	S 38 4 AB S2	S 38 5 AB S2	S 46 0 AR S2	S 42 2 AR S2	S 38 2 MS S2Si	S 38 5 FB S2Si	S 38 4 AB S2Si	S 38 5 AB S2Si	S 42 Z AR S2Si	S 46 2 AB S2Mo	S 46 3 AB S2Mo	S 35 2 FB S3	S 46 3 AB S3	S 42 5 FB S3Si	S 46 6 FB S3Si	S 42 2 AB T3	S 42 4 AB T3	S 46 5 AB T3Ni		
		10.40	10.45	10.71	10.80	10.81	10.87	10.40	10.47	10.71	10.72	10.81	10.88	10.45	10.62	10.71	10.72	10.83	10.71	10.72	10.61	10.71	10.61	10.62	10.71	10.71	10.47		
		OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.24	OK Autrod 12.24	OK Autrod 12.30	OK Autrod 12.30	OK Autrod 12.32	OK Autrod 12.32	OK Tubrod 14.00	OK Tubrod 15.00	OK Tubrod 15.24		
1.0523	S430GP																		●	●		●	●	●	●	●	●		
1.8975	L450MB (API 5L: X65)																		●	●		●		●			●		
1.8952	L450QB (API 5L: X65)																		●	●		●		●			●		
1.8826	P460M																		●	●		●		●			●		
1.8837	P460ML1																		○	●		○		●			●		
1.8831	P460ML2																		○	●		○		●			●		
1.8905	P460N																		●	●		●		●			●		
1.8935	P460NH																		●	●		●		●			●		
1.8915	P460NL1																		○	●		○		●			●		
1.8918	P460NL2																		○	●		○		●			●		
1.8870	P460Q																		●	●		●		●			●		
1.8871	P460QH																		●	●		●		●			●		
1.8872	P460QL1																		○	●		○		●			●		
1.8864	P460QL2																		○	●		○		●			●		
1.8878	S460G1+M (+Q)																							●			●		
1.8887	S460G2+M (+Q)																							●			●		
1.8883	S460G3 (+M)																							●			●		
1.8889	S460G4 (+M)																							●			●		
1.8885	S460G5+Q																							●			●		
1.8884	S460G6+Q																							●			●		
1.8827	S460M																		●	●		●		●			●		
1.0982	S460MC																		●	●		●		●			●		
1.8849	S460MH																		●	●		●		●			●		
1.8838	S460ML																		○	●		○		●			●		
1.4850	S460MLH																		○	●		○		●			●		
1.8901	S460N																		●	●		●		●			●		
1.8953	S460NH																		●	●		●		●			●		
1.8903	S460NL																		○	●		○		●			●		
1.8956	S460NLH																		○	●		○		●			●		
1.8908	S460Q																		●	●		●		●			●		
1.8906	S460QL																		○	●		○		●			●		
1.8916	S460QL1																		○	○		○		●			○		
1.8977	L485MB (API 5L: X70)																		●										
1.8955	L485QB (API 5L: X70)																		●										

● = zalecany materiał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne
○ = odpowiedni matariał dodatkowy; należy uwzględnić lokalne warunki i wymagania technologiczne

Materiały do spawania stali niestopowych i niskostopowych (Re ≤ 485 MPa)

Typ / Topnik / Drut / Materiał rodzimy		SAW																														
		S 35 0 MS S1	S 35 2 MS S1	S 35 4 AB S1	S 38 0 CS S1	S 42 A AR S1	S 35 A AR S1	S 38 0 MS S2	S 35 3 AB S2	S 38 4 AB S2	S 38 5 AB S2	S 46 0 AR S2	S 42 2 AR S2	S 38 2 MS S2Si	S 38 5 FB S2Si	S 38 4 AB S2Si	S 38 5 AB S2Si	S 42 Z AR S2Si	S 46 2 AB S2Mo	S 46 3 AB S2Mo	S 35 2 FB S3	S 46 3 AB S3	S 42 5 FB S3Si	S 46 6 FB S3Si	S 42 2 AB T3	S 42 4 AB T3	S 46 5 AB T3Ni					
		10.40	10.45	10.71	10.80	10.81	10.87	10.40	10.47	10.71	10.72	10.81	10.88	10.45	10.62	10.71	10.72	10.83	10.71	10.72	10.61	10.71	10.61	10.62	10.71	10.71	10.47					
		OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.10	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.20	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.22	OK Autrod 12.24	OK Autrod 12.24	OK Autrod 12.30	OK Autrod 12.30	OK Autrod 12.32	OK Autrod 12.32	OK Tubrod 14.00	OK Tubrod 15.00	OK Tubrod 15.24					
1.1151	C22E				○	○	○	○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.1158	C25E				○	○	○	○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.0528	C 30								●	●	●				●	●	●		●	●	●	●	●	●	●	●	●					
1.1178	C30E								●	●	●				●	●	●		●	●	●	●	●	●	●	●	●					
1.0501	C 35																		●	●	●	●	●	●	●	●	●					
1.1181	C35E																		●	●	●	●	●	●	●	●	●					
1.0511	C 40																									●	●					
1.1186	C40E																									●	●					
1.0503	C 45																									●	●					
1.1191	C45E																									●	●					
1.0420	GE200 (GS-38)							○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.0449	GS200							○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.0445	GE240 (GS-45)							○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.0455	GS240							○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.0558	GE300 (GS-60)								●	●	●				●	●	●		●	●	●	●	●	●	●	●	●					
1.1131	G17Mn5							○	●	●	●	○	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●					
1.0440	GL-A (S235JRS1)			●				●		●	○	●	○		●	○	○		●	○				○	●	●						
1.0441	GL-A (S235JRS2)			●				●		●	○	●	○		●	○	○		●	○				○	●	●						
1.0442	GL-B (S235J0S)			●				●		●	○	●	○		●	○	○		●	○				○	●	●						
1.0474	GL-D (S235J2S2)			●				●		●	○	●	○		●	○	○		●	○				○	●	●						
1.0475	GL-D (S235J2S1)			●				●		●	○	●	○		●	○	○		●	○				○	●	●						
1.0476	GL-E (S235J4S)			●				●		●	○		○		●	○	○			○				○								
1.0513	GL-A 32 (S315G1S)							●		●	○	●	○		●	●	○		●	○				●	●	●						
1.0514	GL-D 32 (S315G2S)							●		●	○	●	○		●	●	○		●	○				●	●	●						
1.0515	GL-E 32 (S315G3S)							●		●	○	●	○		●	●	○		●	○				●	●	●						
1.8840	GL-F 32 (S315G4S)															●	○							●								
1.0583	GL-A 36 (S355G1S)							●		●	○	●	○		●	●	○		●	○				●	●	●						
1.0584	GL-D 36 (S355G2S)							●		●	○	●	○		●	●	○		●	○				●	●	●						
1.0589	GL-E 36 (S355G3S)							●		●	○	●	○		●	●	○		●	○				●	●	●						
1.8841	GL-F 36 (S355G4S)															●	○							●								
1.0532	GL-A 40 (S390G1S)															●	○							●								
1.0534	GL-D 40 (S390G2S)															●	○							●								
1.0560	GL-E 40 (S390G3S)															●	○							●								
1.8842	GL-F 40 (S390G4S)															●	○							●								

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