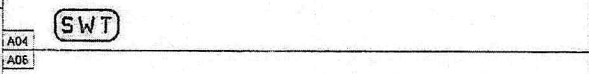




A03 Certificate No. 3791/5-2019 1/3
Advice No. A190527028

A02 Test Report
according to ASTM A6

A01 Stahlwerk Thüringen GmbH
A05 Quality Assurance Department
Kronacher Straße 6
07333 Unterwellenborn
Germany



A06 Our Order No.: 2084001119
A07 Your Order No.: 001-001810-1

B02 Quality: A992 DUAL
according to: ASTM A992 -
ASTM A572 GR50

Pos.	Heat No.	Dimension	Length	Pieces	Theoretical Weight
A10	B07	B01	B09	B06	B12
001	24976	C 12X20,7	480 in	140	52 580 kg
001	24977	C 12X20,7	480 in	140	52 580 kg
001	24978	C 12X20,7	480 in	112	42 064 kg
001	24979	C 12X20,7	480 in	140	52 580 kg
001	24980	C 12X20,7	480 in	140	52 580 kg
001	24981	C 12X20,7	480 in	126	47 322 kg
002	24982	C 12X25	480 in	90	40 824 kg
002	24983	C 12X25	480 in	110	49 896 kg
002	24984	C 12X25	480 in	20	9 072 kg
003	24973	C 12X30	480 in	18	9 798 kg
003	24974	C 12X30	480 in	176	95 803 kg

Heat Analysis [%]										
Heat No.	C	Si	Mn	P	S	N	Nb	V	Cr	Cu
B07	C71	C72	C73	C74	C75	C76	C77	C78	C79	C80
max	0.23	0.40	1.50	0.035	0.045	0.012	0.050	0.110	0.35	0.60
min		0.10	0.50				0.005			
24973	0.08	0.20	0.95	0.017	0.025	0.007	0.020	0.005	0.10	0.31
24974	0.08	0.20	0.95	0.017	0.025	0.007	0.020	0.005	0.10	0.31
24976	0.09	0.20	0.92	0.018	0.022	0.009	0.021	0.005	0.09	0.30
24977	0.08	0.21	0.94	0.019	0.024	0.010	0.020	0.005	0.11	0.31
24978	0.08	0.20	0.93	0.020	0.013	0.008	0.021	0.005	0.10	0.29
24979	0.08	0.20	0.92	0.021	0.022	0.009	0.020	0.005	0.12	0.30
24980	0.07	0.20	0.93	0.019	0.024	0.007	0.020	0.005	0.10	0.31
24981	0.07	0.20	0.94	0.020	0.025	0.009	0.019	0.005	0.11	0.29
24982	0.08	0.19	0.93	0.018	0.024	0.009	0.019	0.005	0.09	0.33
24983	0.07	0.20	0.93	0.017	0.023	0.010	0.018	0.005	0.08	0.35
24984	0.07	0.20	0.94	0.015	0.024	0.008	0.018	0.005	0.08	0.34

Z03 Works inspector
René Merbach

Z02 May 27, 2019



**STAHLWERK
THÜRINGEN**

A03 Certificate No. 3791/5-2019 2/3
Advice No. A190527028

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A04
A06

A08 Our Order No.: 2084001119
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B02 Quality: A992 DUAL
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ASTM A572 GR50

Heat Analysis [%]				
Heat No.	Ni	Mo	CEV1	Sn
B07	C71	C72	C95	C73
max	0.45	0.15	0.45	
min				
24973	0.13	0.03	0.29	0.014
24974	0.13	0.03	0.29	0.014
24976	0.13	0.03	0.30	0.014
24977	0.14	0.03	0.30	0.014
24978	0.12	0.03	0.29	0.013
24979	0.11	0.02	0.29	0.014
24980	0.11	0.02	0.28	0.015
24981	0.11	0.02	0.29	0.013
24982	0.12	0.02	0.29	0.014
24983	0.12	0.03	0.27	0.014
24984	0.11	0.03	0.28	0.014

Tensile test				
Heat No.	Yield stress [PSI]	Tensile strength [PSI]	Elongation 2 in [%]	Ys/Ts
B07	C11	C12	C13	C14
max	65000			0.85
min	50000	65000	21.0	
24973	57710	74095	31.7	0.78
24974/1	59015	71050	37.0	0.83
24974/2	59015	71050	37.0	0.83
24976/1	56985	72210	35.6	0.79
24976/2	56985	72210	35.6	0.79
24977/1	56405	71775	37.0	0.79
24977/2	56405	71775	37.0	0.79
24978/1	58435	72935	35.6	0.80
24978/2	58435	72935	35.6	0.80
24979/1	57420	72355	34.3	0.79
24979/2	57420	72355	34.3	0.79
24980/1	56260	71050	35.6	0.79
24980/2	56260	71050	35.6	0.79
24981/1	57565	73080	35.6	0.79
24981/2	57565	73080	35.6	0.79

Z03 Works inspector
René Merbach

Z02 May 27, 2019



A03 Certificate No. 3791/5-2019 3/3
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A02 Test Report
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A08 Our Order No.: 2084001119
 A07 Your Order No.: 001-001810-1

B02 Quality: A992 DUAL
 according to: ASTM A992 -
 ASTM A572 GR50

Tensile test Heat No.	Yield stress [PSI]	Tensile strength [PSI]	Elongation 2 in [%]	Ys/Ts
[B07]	[C11]	[C12]	[C13]	[C14]
max	65000			
min	50000	65000	21.0	0.85
24982/1	56115	71485	35.6	0.78
24982/2	56115	71485	35.6	0.78
24983/1	57420	71485	34.3	0.80
24983/2	57420	71485	34.3	0.80
24984	57710	71195	33.0	0.81

Z01
 - electric arc melting
 - Melted & Manufactured in Germany
 - fine grain silicon killed

HOT ROLLED, NON-ALLOYED CARBON STEEL PROFILES

We confirm herewith that the delivered material complies with the terms of the order.

Z05 Works inspector
 René Merbach

Z02 May 27, 2019