

Welding Consumables in Industry

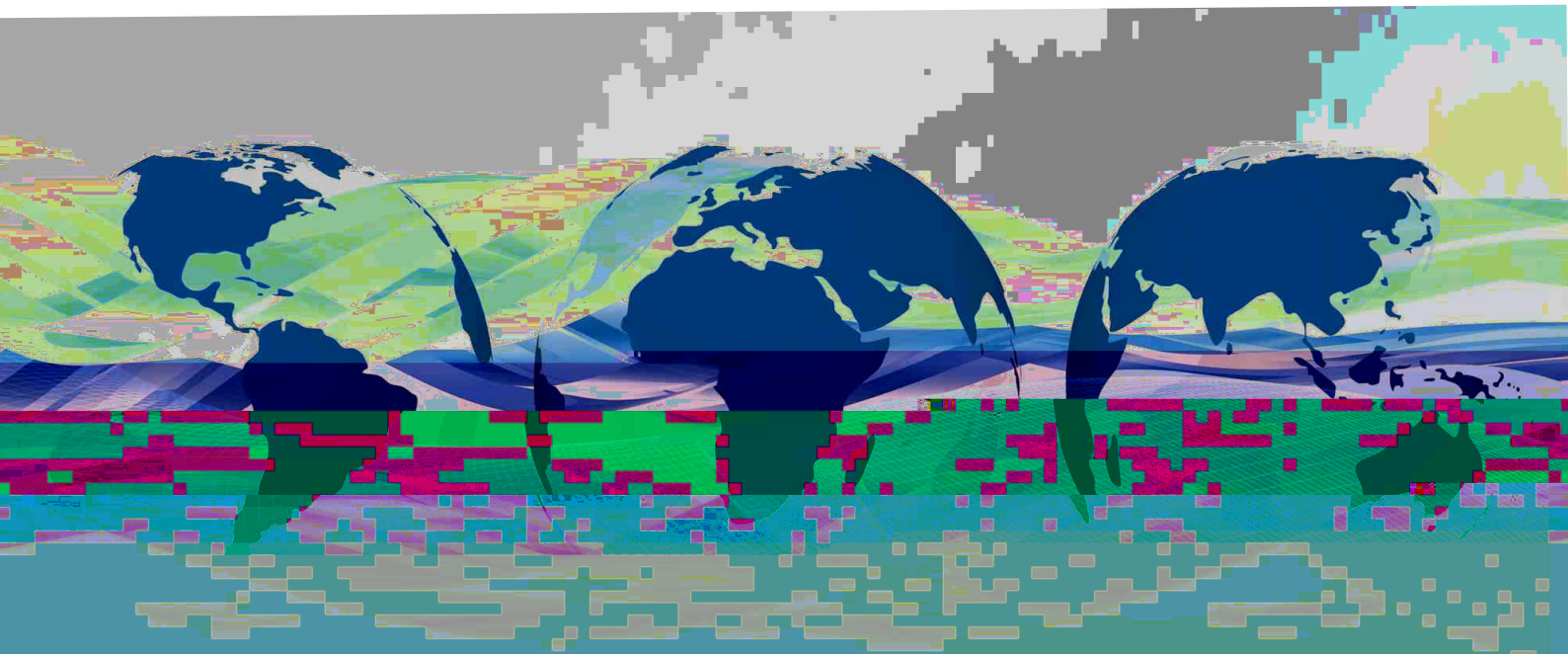
Pressure Vessel



TIENTAI

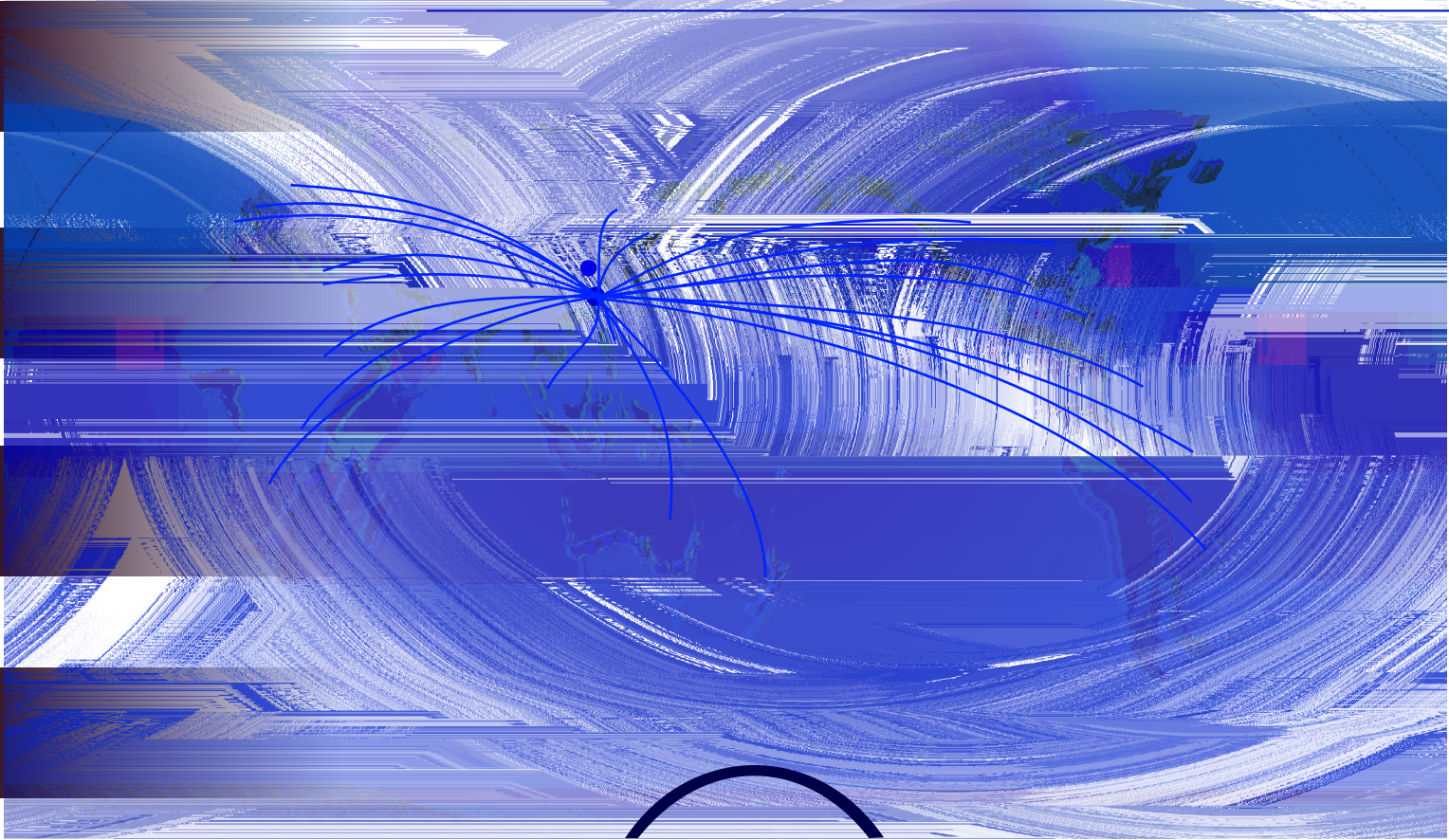
AN ILLINOIS TOOL WORKS COMPANY

[http : / / www.tientai.com](http://www.tientai.com)



TIENTAI ELECTRODE CO., LTD.

ITW- Tradition of Excellence



Illinois Tool Works Inc. (NYSE:ITW) designs and produces an array of highly engineered fasteners and components, equipment and consumable systems, and specialty products and equipment for customers around the world. A Fortune 200 diversified manufacturing company with more than 100 years of history. ITW's 650 decentralized business units in 45 countries employ nearly 49,000 men and women who are focused on creating value-added products and innovative customer solutions.

"During its more than 100 years of existence, ITW's recipe for success has been focused on creating "value-added products for key customers around the world. We do this by growing our business and making acquisitions which provide additional product solutions to our customers.

Many of our best product innovations come from simple observation coupled with a keen understanding of our customers' needs. Most companies design products specifically to increase sales volume. ITW's main goal is not to create a best seller, but to enhance customers. To attain that goal, our product design engineers develop value-added, proprietary products. Our unique approach begins at our customers' plants or worksites. By working closely with our customers. We determine how an ITW product or process could provide a better solution. Proof of our highly innovative culture is seen in our patent activities. In 2004, we had more than 16,000 unexpired patents and pending patent applications worldwide, including 2,900 U.S. Patents and 1,116 pending U.S. Applications. We typically rank in the top 100 of patent issuers in the U.S.

Pressure Vessel

For global Pressure Vessel equipments and construction, TienTai provide consumables with top quality and specialized welding services.



Total Solutions for Pressure Vessel Welding

- ☆Saving cost of base materials in effect .
- ☆Conforming to the requirement of effective and high tensile welding.
- ☆Outstanding performance in welding.
- ☆Applying in stainless and carbon steel.
- ☆Effective strip cladding.

The limited page cannot afford whole specific contents of products and techniques. Please contact us if further information required.

Base Metal		SAW		
Steel Type	Steel Grade	Flux	Wire	AWS Spec.
C-Mn	ASME A516, G70	TF-250	TSW-12KH	F7A8/P8-EH12K

Typical chemical composition of weld metal (wt%)

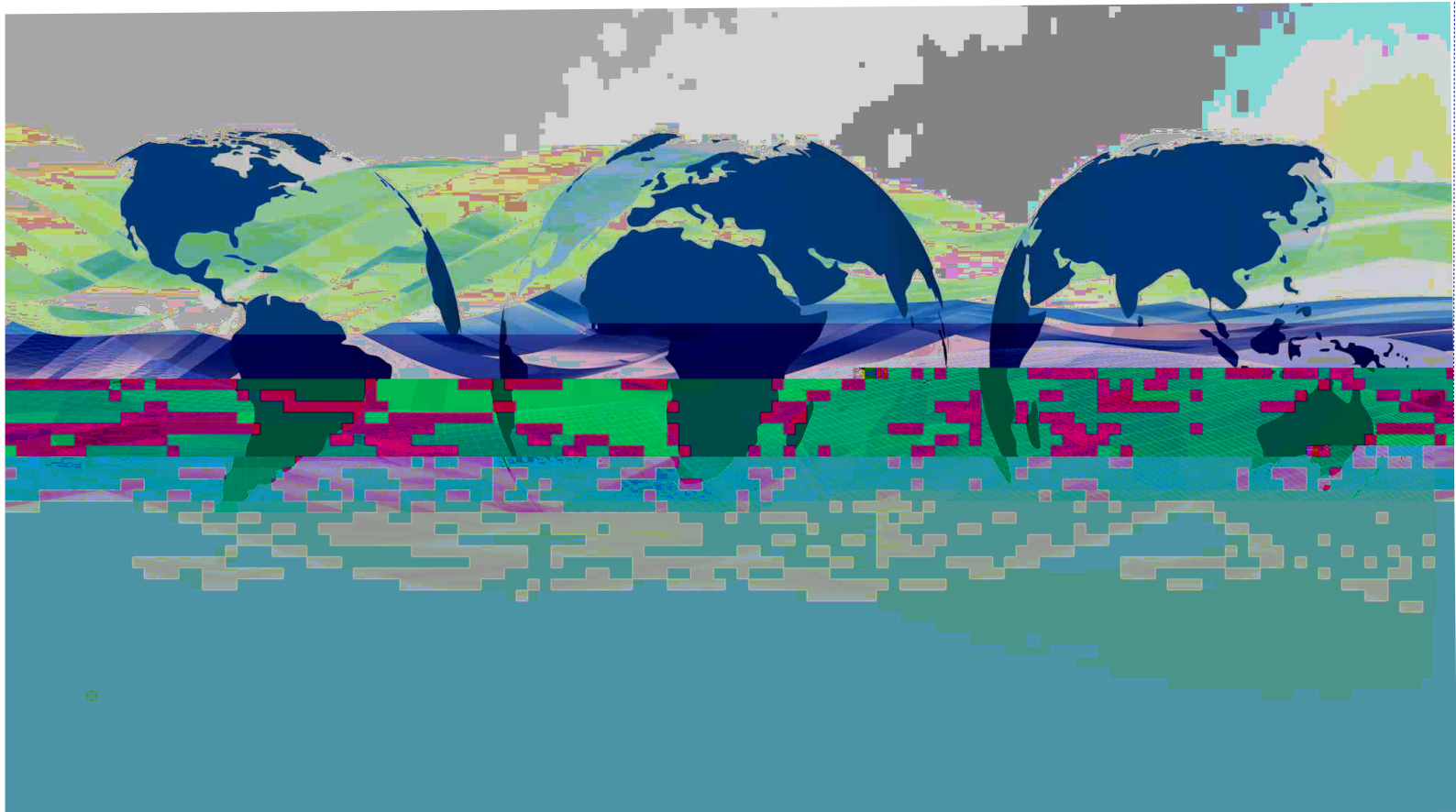
TFW-309LNb	All weld metal	0.027	0.50	1.9	12.7	-	0.025	0.007	Cr:23.5, Nb:0.77
	2mm from the surface	0.04	0.40	1.32	9.95		0.022	0.009	Cr:19.0, Nb:0.58
TFW-309LT		0.026	0.62	1.75	13.00	0.11	0.022	0.009	Cr:24.07, Cu:0.11
TFW-309LMo		0.025	0.57	1.50	12.7	2.35	0.023	0.007	Cr:22.93, Nb:0.6
TFW-347	TFW-347	0.058	0.54	1.48	10.5	0.10	0.029	0.009	Cr:19.56, Nb:0.54
TF-250	TSW-12KH	0.037	0.36	0.53	4	-	0.015	0.015	Cu:0.026
		0.09	0.22	0.81	-	0.47	0.092	0.004	
	TSW-E23	0.07	0.24	0.63	-	0.93	0.009	0.004	
TFS-330		0.04	0.46	1.78	9.30	-	0.028	0.009	Cr:19.2
		0.04	0.47	1.57	12.3	-	0.023	0.005	
		0.04	0.50	1.73	10.2	1.89	0.025	0.008	
		0.035	0.45	1.43	13.63	3.38	0.025	0.013	
TFS-330		0.03	0.58	1.82	10.20	0.10	0.03	0.01	Nb:0.70, Cr:18.99
		0.02	0.50	1.05	9.00	2.82	0.02	0.01	
	1-28	0.02	0.58	1.39	10.01	0.11	0.02	0.01	
		0.02	0.58	1.31	13.17	0.10	0.02	0.01	
		0.02	0.52	1.62	11.30	2.20	0.02	0.01	
		0.02	0.57	1.28	13.25	2.61	0.02	0.01	
ML-305	1st layer	0.04	0.53	1.51	10.1	0.12			Cu:0.06, Nb:0.63, Cr:19.2

Typical mechanical properties of weld metal:

TFW-309LNb	-	678	32	-	-	-	
TFW-309LT	423	580	34	-	-	-	
TFW-309LMo	-	685	33	-	-	-	
TFW-347L	-	627	35	-	-	-	
TF-250	TSW-12KH	483	567	34	175	-50	-
					120	-60	
	TSW-E22	415	526	34	209	-50	620°C * 1hr
					172	-60	
	TSW-E23	518	605	28	183	-29	690°C * 1hr
	SubCor B2	574	671	26	210	-29	690°C * 1hr
					110	-40	
SubCor B3	541	631	26	80	-30	690°C * 1hr	
TFS-300	TW-308L	579	680	24	100	-30	
	TW-309L	-	570	40	45	110	-
					40	-196	
	TW-316L	-	545	38	60	110	-
					35	-196	
TW-317L	-	550	43	50	-110	-	
TFS-330	TW-347	-	578	36	47	-100	-
	TW-2209	460	620	36	50	-110	-
	TW-308L	591	780	31	74	-40	-
	TW-309L	377	545	43	40	-196	-
	TW-316L	386	541	39	56	-196	-
TW-317L	375	560	40	40	-196	-	
TFS-303	TW-61	443	576	24	67	-100	-
	TW-17	470	700	35	70	-196	-
TFS-340	TW-61	470	710	40	75	-196	-
	TW-17	503	754	46	67	-196	AW
		490	706	32	57	-196	AW

The Portfolio of Brands





Head Office

TienTai Electrode Co., Ltd.

No.6, Kaifa 4th Rd., Rende Township,
Tainan County 717, Taiwan.

Tel: 886-6-2663721 / Fax: 886-6-2664301

<http://www.tientai.com>

E Mail: ttrad@mail.tientai.com.tw

All data of our products in this brochure are upon careful investigation and intensive research. However, we do not assume any liability for their correctness, please contact our staff before adoption.

PRINTED: 08.2012