

Fire Test Report
API Standard 6FB, Third Edition

Performed for

Zen Wang Co. Ltd.

www.zenwang.com.tw



Spiral Wound Gasket– ZW6596
316LSS metal strip / 0.5 mm Graphite

6 inch Class 300

Project Number: 210201
November 13, 2010



Performed by

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

434 Walnut Hill Road
North Yarmouth, ME 04097 USA
(207) 829-5359

info@yarmouthresearch.com
www.yarmouthresearch.com

Yarmouth Research and Technology, LLC

API 6FB FIRE TEST REPORT

Customer:	Zen Wang Co.,Ltd	Date: 11/18/2010
Product Code:	6 inch Class 300 Spiral Wound Gasket	
	ZW6596-316L-316L/FG-316L Gasket	
	Hoop: 316LSS/FG, Center Ring/Inner Ring: 316LSS/316LSS	
Project Number:	PN210201	
Test Specification:	API 6FB, Third Edition, Nov. 1998	
	Non-Bending, On-shore or Open-offshore Test	
Seal Area OD:	8.40	Seal Area ID: 7.00 inches
Mean Seal Diameter:	7.7 inches	ID of fire seal
Mean Circumference:	24.2 inches	
Allowable Leakage:	24.2 ml/min	
Nominal Test Pressure:	555 psig	75% of ANSI Class 300
YRT Technician:	Matthew J. Wasielewski, P.E.	
	Version of YRT's FIRE-Control 6FB Software: A	
	Equipment Confirmed to be in Calibration to NIST Standards: Yes	

Burn and Cool Down Test

Burn Start Time:	15:01:00	
Burn / Cooldown Duration:	60	minutes
Average Pressure During Burn/Cooldown:	567	psig
Leak Rate During Burn/Cool Down:	6	ml/min
Allowable External Leak Rate:	24.2	ml/min
Amount of Time of Avg. Cal. Block > 1200 deg.:	16.8	minutes
Were Test Conditions Within Compliance?	Yes	
Was the Leakage Below the Allowable?	Yes	

Depressurization - Repressurization Test

Average Pressure During Test:	554	psig
Gasket Leak Rate:	0	ml/min
Allowable External Leak Rate:	24.2	ml/min
Was the Leakage Below the Allowable?	Yes	

Does the Gasket Pass or Fail API 6FB?	PASS
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Witnesses

Matthew J. Wasielewski, PE
Note: *Yarmouth Research*



Temperature versus Time Chart

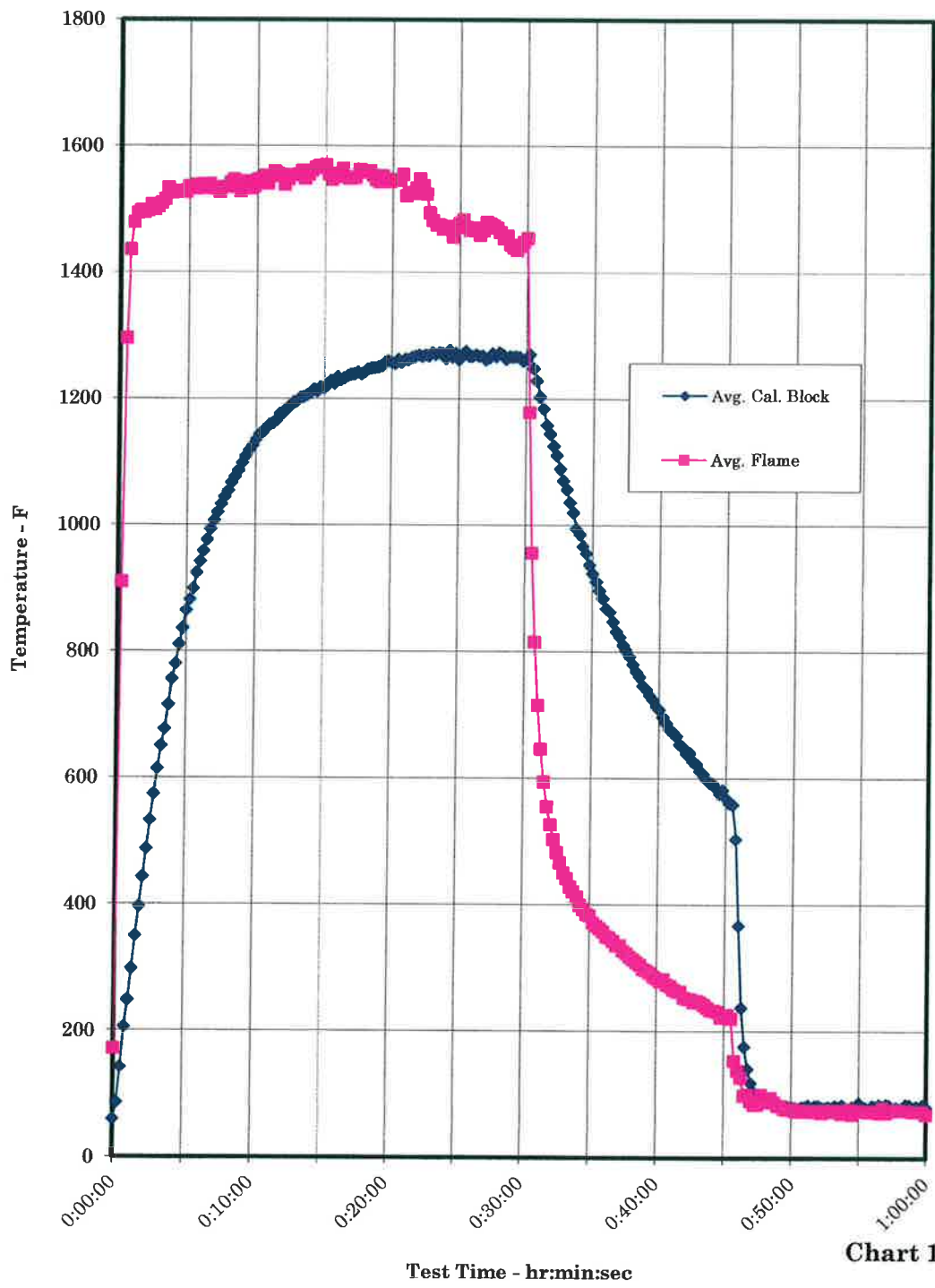


Chart 1

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Pressure versus Time Chart

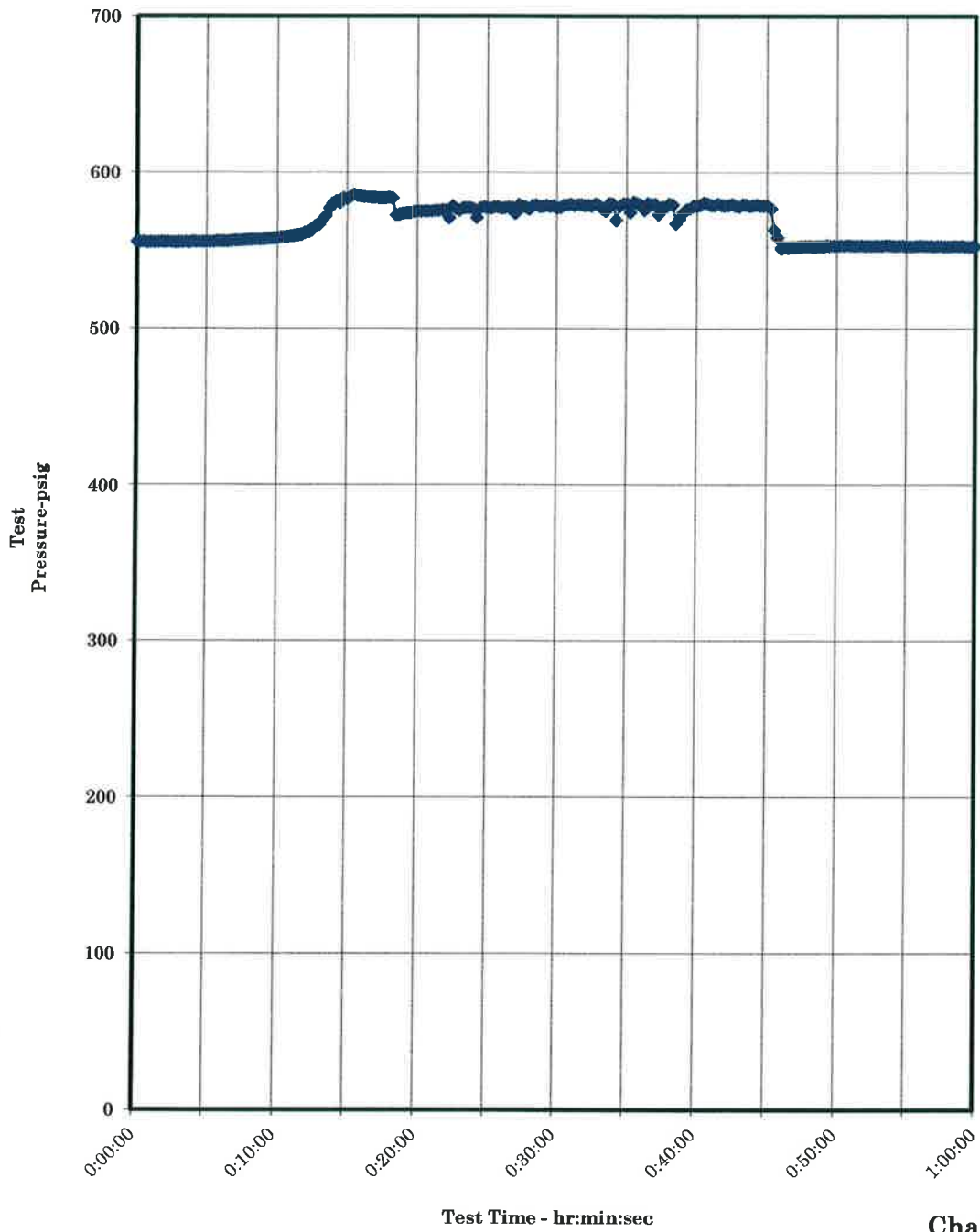
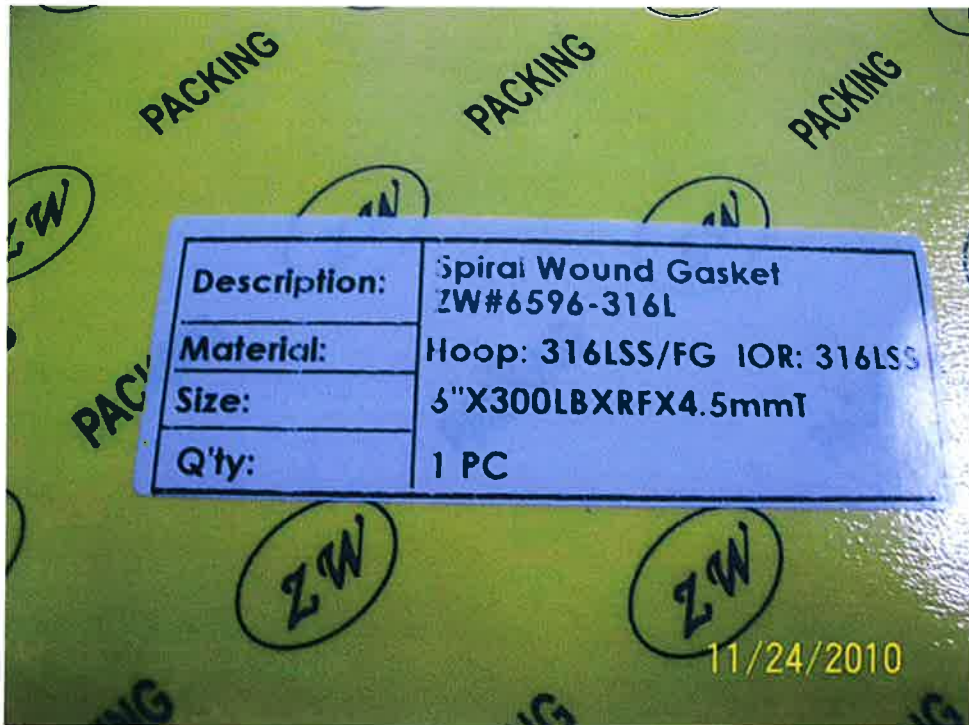


Chart 2

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Gasket Before Test

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Gasket Fire Test

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Gasket After Test

Yarmouth Research and Technology, LLC

Fire Test Information

Customer: Zen Wang Co., Ltd

Date: 11/18/2010

Product Code: 6 inch Class 300 Spiral Wound Gasket

Project Number: PN210201

Fire Test Raw Data

Time	Pressure (psig)	Water Volume (mls)	Cal. 1 Block Temp - F	Cal. 2 Block Temp - F	Cal. 3 Block Temp - F	Cal. 4 Block Temp - F	Average Block Temp - F	Flame 1 Temp - F	Flame 2 Temp - F	Flame 3 Temp - F	Flame 4 Temp - F	Average Flame Temp - F
15:01:00	556	44450	58	64	65	53	60	212	347	61	68	172
15:01:15	556	44419	81	81	98	85	86	925	1237	673	806	910
15:01:30	556	44428	125	128	161	157	143	1296	1500	1096	1289	1295
15:01:45	555	44453	212	170	220	223	206	1460	1534	1345	1405	1436
15:02:00	556	44427	212	220	271	294	249	1522	1537	1402	1455	1479
15:02:15	556	44435	248	262	328	358	299	1573	1523	1412	1467	1494
15:02:30	555	44420	284	306	379	434	351	1563	1517	1433	1479	1498
15:02:45	556	44418	337	341	430	478	396	1570	1512	1428	1470	1495
15:03:00	556	44414	396	383	475	522	444	1573	1507	1423	1487	1498
15:03:15	556	44421	419	414	520	599	488	1572	1518	1455	1484	1507
15:03:30	555	44423	491	457	561	624	533	1556	1517	1465	1459	1499
15:03:45	555	44428	529	498	605	668	575	1560	1515	1476	1466	1504
15:04:00	556	44420	565	533	643	718	615	1575	1512	1481	1470	1510
15:04:15	555	44417	601	565	684	754	651	1576	1514	1488	1485	1516
15:04:30	556	44429	619	597	716	778	677	1615	1518	1487	1517	1534
15:04:45	555	44437	665	630	751	818	716	1584	1521	1496	1503	1526
15:05:00	556	44432	724	650	778	875	757	1602	1514	1509	1486	1528
15:05:15	556	44432	740	679	809	895	781	1612	1512	1500	1492	1529
15:05:30	556	44451	781	699	835	931	811	1593	1520	1519	1478	1528
15:05:45	556	44460	802	730	863	952	837	1589	1509	1522	1489	1527
15:06:00	556	44459	829	758	892	980	865	1597	1502	1551	1495	1536
15:06:15	556	44472	844	777	914	993	882	1591	1503	1529	1508	1533
15:06:30	556	44456	858	797	935	1008	900	1608	1498	1554	1495	1539
15:06:45	556	44467	875	818	954	1051	925	1597	1501	1525	1509	1533
15:07:00	556	44485	904	833	973	1060	942	1607	1497	1507	1546	1539
15:07:15	556	44489	916	852	990	1079	959	1616	1496	1515	1527	1539
15:07:30	556	44499	931	876	1007	1094	977	1642	1501	1502	1514	1540

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15:07:45	556	44531	955	887	1024	1109	994	1603	1495	1497	1537	1533
15:08:00	557	44516	959	905	1041	1126	1008	1596	1498	1511	1522	1532
15:08:15	557	44512	973	917	1055	1136	1020	1594	1493	1506	1515	1527
15:08:30	557	44526	991	928	1066	1148	1033	1605	1494	1512	1530	1535
15:08:45	557	44551	1001	941	1077	1160	1045	1611	1492	1518	1519	1535
15:09:00	557	44545	1003	953	1088	1172	1054	1611	1500	1534	1525	1543
15:09:15	557	44539	1024	966	1100	1179	1067	1621	1498	1541	1529	1547
15:09:30	557	44532	1030	979	1108	1190	1077	1617	1491	1518	1513	1535
15:09:45	557	44562	1046	985	1116	1199	1087	1596	1499	1502	1514	1528
15:10:00	557	44568	1062	999	1126	1206	1098	1605	1501	1525	1524	1539
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15:10:30	558	44596	1092	1014	1146	1222	1119	1608	1491	1518	1516	1533
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15:11:00	558	44615	1118	1033	1155	1235	1135	1610	1500	1548	1532	1548
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15:13:00	562	44716	1155	1080	1195	1276	1177	1637	1486	1514	1518	1539
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15:13:30	563	44858	1171	1093	1205	1282	1188	1619	1504	1549	1543	1554
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15:14:15	570	44979	1189	1110	1216	1290	1201	1622	1501	1567	1555	1561
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15:20:15	574	45377	1210	1194	1267	1336	1252	1584	1516	1547	1565	1553
15:20:30	574	45393	1221	1198	1270	1341	1258	1577	1508	1551	1558	1549
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15:22:00	575	45395	1209	1216	1285	1340	1263	1558	1520	1517	1490	1521
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15:26:15	577	45333	1188	1217	1338	1341	1271	1593	1531	1379	1432	1484
15:26:30	578	46370	1199	1219	1340	1342	1275	1582	1530	1367	1406	1471

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15:26:45	578	45396	1170	1215	1343	1341	1267	1593	1529	1350	1392	1466
15:27:00	577	45353	1181	1211	1342	1336	1268	1591	1532	1347	1411	1470
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15:27:45	577	45347	1173	1210	1350	1337	1263	1569	1522	1353	1419	1466
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15:31:00	577	45244	1155	1205	1367	1327	1264	1587	1511	1325	1395	1455
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15:32:15	579	45366	1111	1126	1275	1226	1185	732	718	622	515	647
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15:32:45	579	45376	1069	1084	1239	1187	1145	643	597	533	449	556
15:33:00	579	45358	1053	1061	1226	1163	1126	613	563	501	430	527
15:33:15	579	45371	1050	1049	1206	1138	1111	591	531	478	414	504
15:33:30	579	45352	1017	1038	1185	1118	1090	568	506	460	398	483
15:33:45	580	45513	1016	1013	1160	1094	1071	552	486	443	387	467
15:34:00	579	45374	1005	1004	1146	1073	1057	535	464	426	380	451
15:34:15	577	45034	989	980	1121	1055	1036	534	447	415	371	442
15:34:30	575	45981	986	964	1098	1034	1021	509	439	402	365	429
15:34:45	580	45652	939	951	1074	1014	995	506	427	394	357	421
15:35:00	580	45332	952	939	1055	997	986	498	415	387	352	413
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