深圳市腾吉科技有限公司

TENGI TECHNOLOGY COMPANY LIMITED

规格承认书

SPECIFICATION FOR APPROVAL

日 期 Date	2025/11/21
编 号 File No	25112102
版 本 Revision	1.0

客　　户
CUSTOMER: _____

客户料号
CUSTOMER NO: _____

品　　名
PART NAME: 2.4GHz Antenna

供方料号
SUPPLIER NO: YJW01.137.158.103A

送样日期Date:　　送样数量Q“TY:

客户确认CUSTOMER APPROVED BY		
APPROVAL	CHIEF	SUPERVISOR

供方确认 SUPPLIER SIGNATURE		
APPROVAL	CHECK	DESIGN
ChenGuoqiang	WenXue	ChenXingyi

YJ-RD-F04-A

add：东莞市长安镇沙头社区木鱼路59号

承认书项目表

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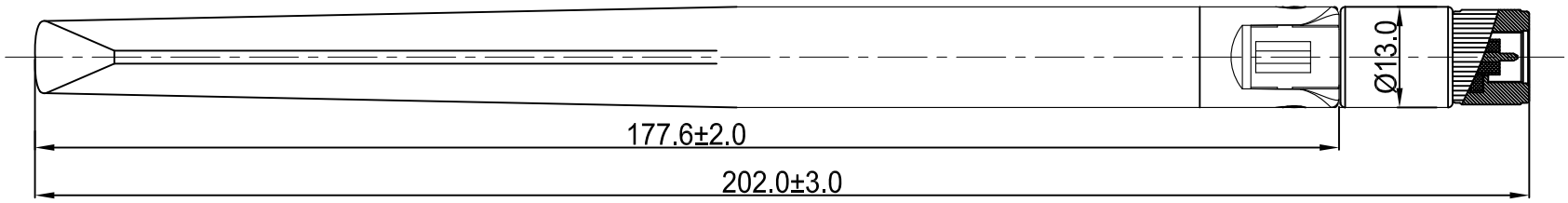
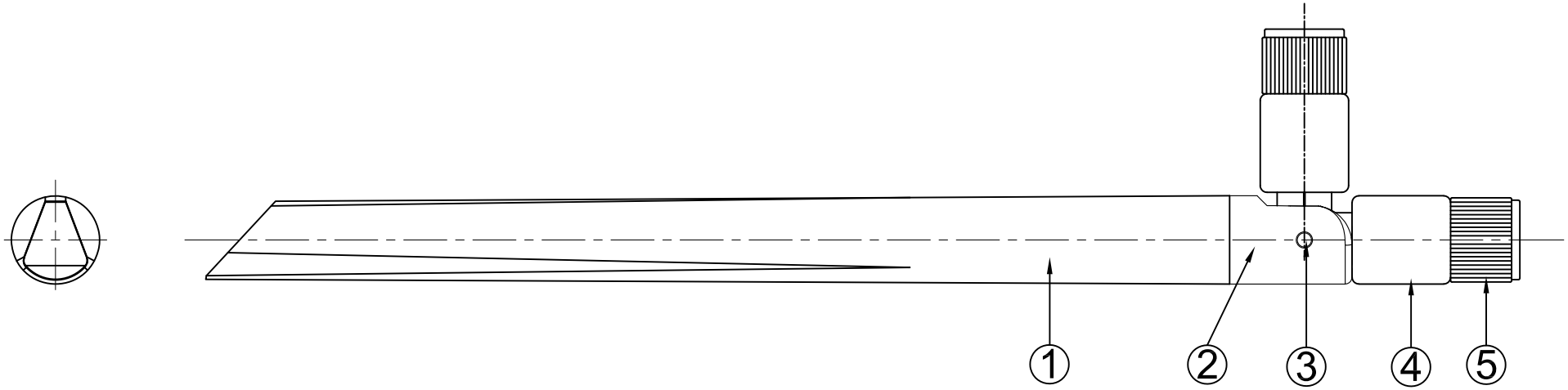
11	N/A	N/A	N/A
12	-	-	-
13	-	-	-

RoHS Compatible

CUSTOMER	
PART NO	

REV.	DESCRIPTION	DATE
A	首次发行	2021-04-20





NO	PART NAME	DESCRIPTION	Q.TY
5	SMA Male	Cu Black	1
4	Bottom Base	PC, Color:Black	1
3	Hinge Pin	POM Black	1
2	Upper Base	PC,Color:Black	1
1	Antenna Cap	TPEE,Color:Black	1

深圳市腾吉科技有限公司
TENGI TECHNOLOGY COMPANY LIMITED

PART NAME: 2.4G Antenna

PART NO.: YJW01.137.158.103A

DATE: 2021-04-20

APPROVED BY	CHECKED BY	DESIGNED BY	
陈国强	李基光	陈俊	UNITS: mm SCALE: 1/1 REVISION: A

Tolerance
X.X ±0.50
X.XX±0.15
X° ±3°

天线规格
Antenna Specification

Electrical Properties	
Frequency	2.4-2.5GHz
Impedance	50 Ohm Nominal
V.S.W.R	2.0 Max
Gain	4.3dBi
Radiation	Omni-directional
Polarization	Linear
Physical Properties	
Connector	SMA Male
Cable Type	None
Cable Length	None
Cable Color	None
Operating Temp.	-40 ~ +85 ˚C
Storage Temp / Humidity	25±5˚C / <70%

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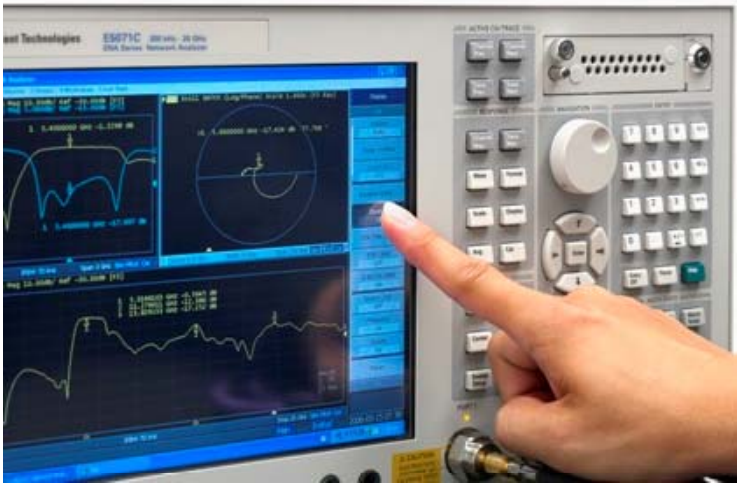
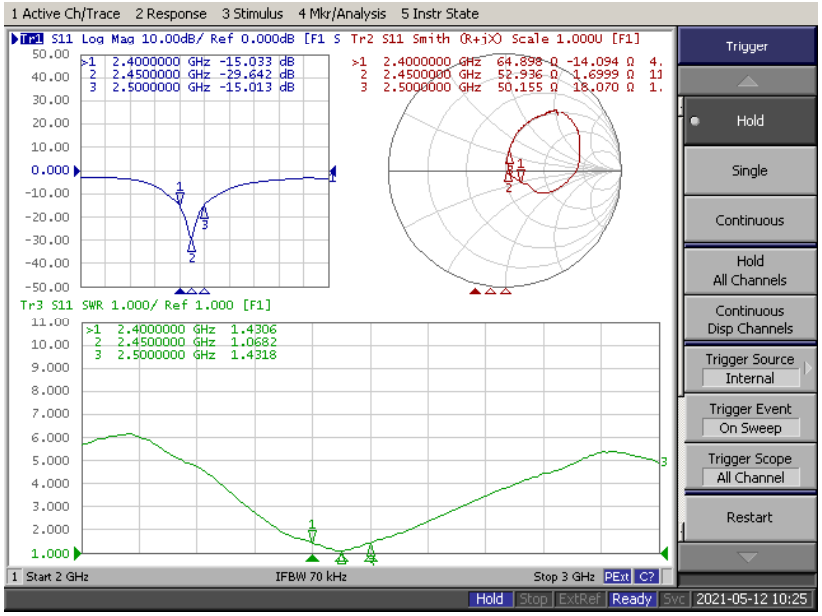
Antenna Performance Test

Agilent E5071B	
S Parameter Test // 4G Antenna	

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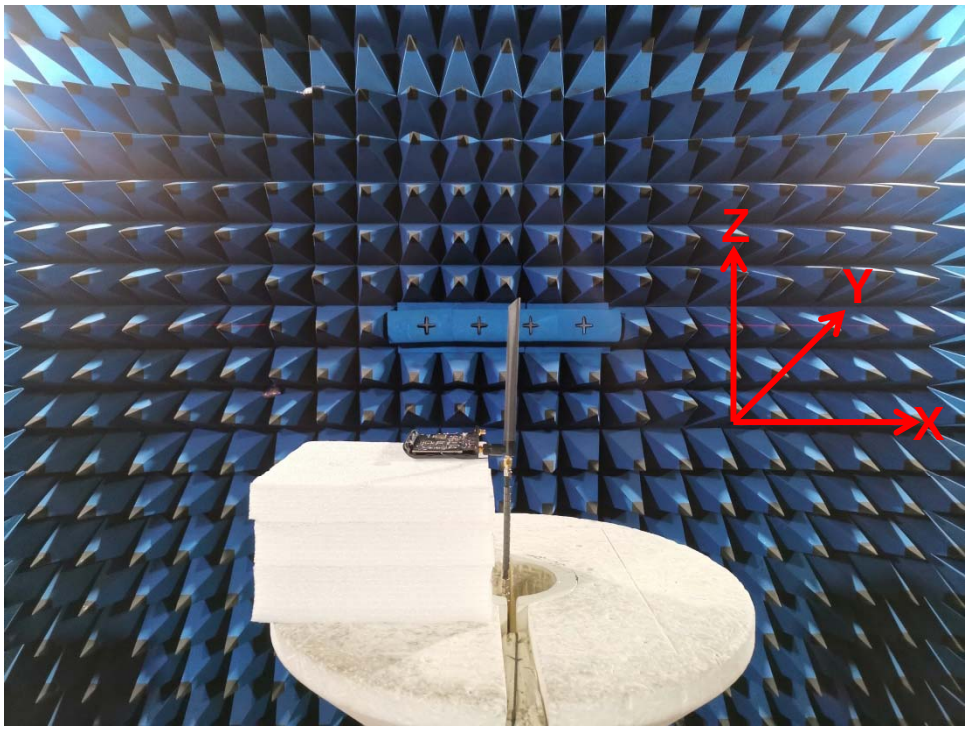
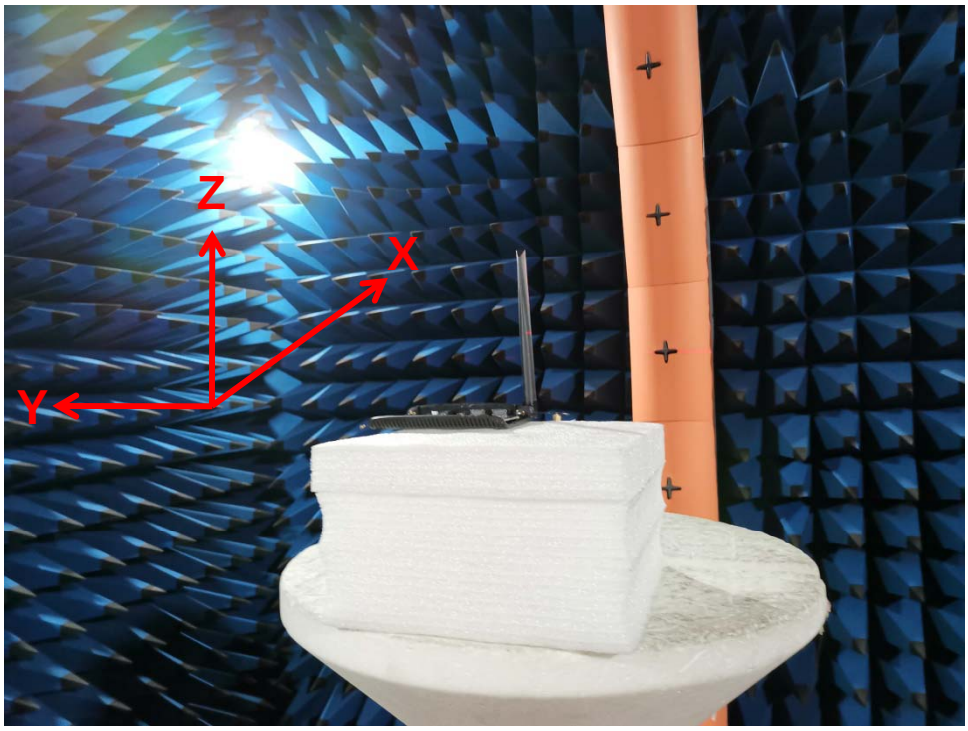
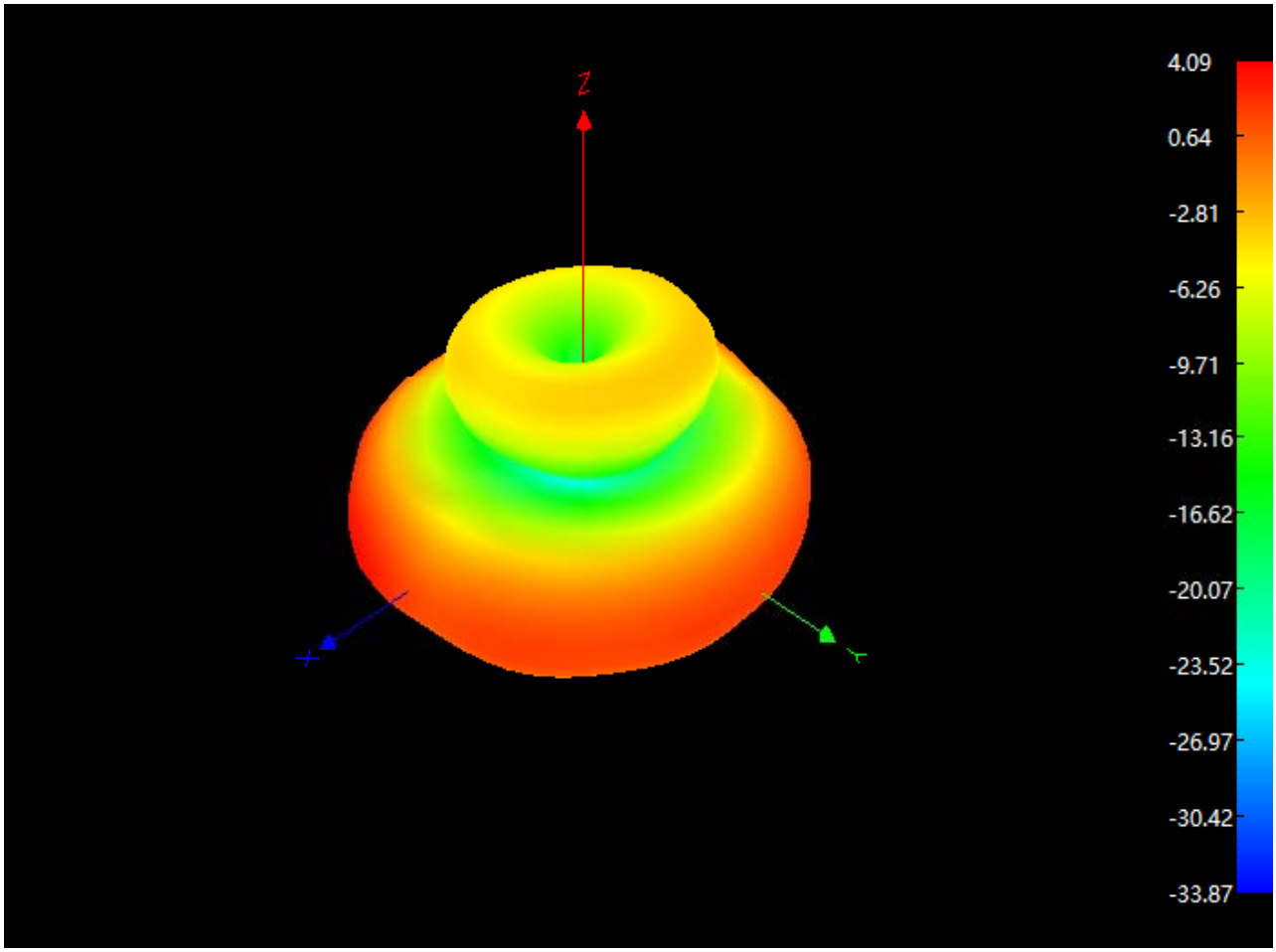
Antenna Passive Test





Passive Test For WIFI Antenna			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	52.1	-2.8	3.2
2410	53.6	-2.7	3.3
2420	55.9	-2.5	3.5
2430	58.9	-2.3	3.9
2440	58.2	-2.4	3.8
2450	60.8	-2.2	4.1
2460	61.7	-2.1	4.1
2470	66.2	-1.8	4.3
2480	64.0	-1.9	3.9
2490	63.5	-2.0	3.7
2500	61.1	-2.1	3.4

Radiation Pattern For WIFI Antenna(2450MHz)



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WIFI Antenna	

WIFI Antenna

江門市新會區鋒樂銅材

JIANGMEN XINHUI FENGLE COPPER

合金成份報告/Chemical Report

客戶/Customer：

日期/Date： 2014-10-10 時間/Time： 16:24:43

材料/Material：

爐號/Sample ID：

	Cu	Zn	Pb	Sn	Mn	Fe
平均	57.7	38.4	3.00	0.297	0.0152	0.233
	Ni	Si	Mg	Cr	Al	As
平均	0.113	< 0.0050	0.0237	0.0051	0.0232	< 0.0010
	Co	Bi	Cd			
平均	< 0.0050	0.0418	< 0.0005			

主管/Manager：

檢驗員/Engineer：

說明：本分析結果是根据德國WAS發射光譜分析儀測之

江門市新會區鋒樂五金製品廠

深圳多鑫实业有限公司

材料成分证明表

物料名称 Description	拆分部位名称Disassembly Unit/component description (e.g. Resistor、Capacitor、Inductor、homogeneous Material of cable and Mechanical Part)	均质材料名称 Homogeneous Material Name. (e.g. Aluminum alloy)	材料總重 (g) Material Weight	物质名称 Substance Name (e.g. Copper (Cu))	CAS No.	物质重量 Substance Weight. (g)	Content Rate(%) (均质材料中的含量per homogeneous materials)	检测报告编号 (ROHS\HF)Test report NO.	检测机构 Test Lab	发布时间 Test date
RF 接头	*gild*	*AU*	*0.0001324*		1336-21-6	*0.0001324*	*100%*	SCL011033292001	CTI	2016-04-16

III. 声明Declaration

供应商（法人或授权人）签字、盖章、签署时间Supplier (the legal representative or authorized officer) :

Signed by :加盖章

Seal :刘科红

Date : 2016-04-16

SHINKONG™

SHINITE®
TPEE

S201NA

Base polymer Grade / Nature
TPEE 一般級 / 本色

			Unit	Test Method	4000DH	5525DH	7200DH
Mechanical properties		**機械性質**					
Izod Impact(Notched)	23℃	衝擊強度	Kg-cm/cm	ASTM D256	NOT BREAK	NOT BREAK	22
	-40℃		Kg-cm/cm		NOT BREAK	NOT BREAK	7
Tensile modulus		拉伸模數	Kg/cm^2	ASTM D638, Type I	660	1630	5840
Nominal Tensile Strain at Break		拉伸率	%	ASTM D638, Type IV	700	545	405
Tensile Stress at Yield		降伏強度	Kg/cm^2	ASTM D638, Type IV	-	155	305
Tensile Strength		拉伸強度	Kg/cm^2	ASTM D638, Type IV	305	380	540
Flexural Strength		彎曲強度	Kg/cm^2	ASTM D790	65	130	320
Flexural Modulus		彎曲模數	Kg/cm^2	ASTM D790	900	2050	7410
Hardness (Shore D), 15sec		蕭氏硬度	-	ASTM D2240	43	53	74
Thermal properties		**熱 性 質**					
Heat Deflection Temperature	66psi	熱變形溫度	℃	ASTM D648	60	100	135
Flammability		防火性	-	UL94	HB	HB	HB
Melting Point		熔點	℃	DSC	185	204	218
Melt Index	2.16Kg	熔融指數	g/10min	ASTM D1238	6.6 (200℃)	17 (220℃)	20 (240℃)
Other properties		**其它性質**					
Specific Gravity		比重	-	ASTM D792	1.15	1.20	1.27
Water Absorption		吸水率	%	ASTM D570	0.67	0.50	0.19
Mold Shrinkage		成形收縮率	%	ASTM D955	0.8-1.8	1.2-2.2	1.3-2.3
Volume Resistivity		體積電阻	Ω-CM	ASTM D257			
CS-17 Taber abrasion	Load 500g	摩擦損耗	$mg/10^3$cycles	ASTM D1044			

以上數據僅供參考，實際數據以產品出廠檢驗報告為準
Data listed above is for reference. The actual quality of certain batch is varied within a specific range, as indicated in each

此塑料規格獲得UL防火認證，並經第三公正檢測單位檢驗通過RoHS和SVHC法規，歡迎至新光網站或來信查詢
This grade is UL V-0 approved, and comply with RoHS & SVHC regulation.
Feel free to inquire the testing report on www.shinkong.com.tw or mail to service@shinkong.com.tw

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SAFETY DATA SHEET（SDS）

Issued: September 26 , 2012
Revised: January 7 , 2014

FileNo. 1001

1.Chemical Product & Company Identification

CHEMICALPRODUCT NAME:	DURACON® M90-44 CF2001
NAME OF COMPANY:	Polyplastics Co.,Ltd.
SECTION IN CHARGE:	2-18-1 Konan, Minato-ku, Tokyo,108-8280 Japan
ADDRESS:	Quality Assurance Dept.
TELEPHONE NUMBER:	03-6711-8605
FACSIMILE NUMBER	03-6711-8616

2. Hazards identification

[GHS CLASSIFICATION]

Physical and Chemical Hazards : ・Flammable solids : Classification not possible
・Self-reactive substances and mixtures : Not applicable
・Pyrophoric solids : Not classified
・Self-heating substances and mixtures : Not classified
・Substances and mixtures, which in contact with water, emit flammable gases : Not classified
・Oxidizing solids : Not classified
・Corrosive to metal : Not classified

Health Hazards : Carcinogeneses : No hazard
Specific target organ/systemic toxicity (Repeated exposure) : No hazard

[GHS CLASSIFICATION]

Environmental Hazards : No hazard

[SYMBOL] : None

[SIGNAL WORD] : None

[HAZARD STATEMENT] : None

[PRECAUTIONARY STATEMENTS]

Prevention : ・Wash hands thoroughly after handling.
・Wear protective gloves.

Response : –

Storage : Avoid direct sunlight and store in a well-ventilated place.

Disposal : Dispose of contents/container in accordance with local & national regulations.

3. Composition/information on ingredients

SUBSTANCE/PREPARATION	: Substance
COMMON CHEMICAL NAME	: Polyoxymethylene
SYNONYMS	: Polyacetal(POM)
INGREDIENTS AND COMPOSITION	: POM ≧99%, Others ≦1%
CHEMICAL FORMURA	: $-[(CH_2-O)_p/(CH_2CH_2O)_q]_n-$
SERIAL No. IN OFFICIAL GAZETTE	: 7-129(base resin) (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)
CAS №.	: 24969-26-4(base resin)
INGREDIENTS CONTRIBUTING TO THE HAZARD	: Formaldehyde. Cadmium, lead, hexavalent chromium and mercury are not used in this grade.

4. First-aid measures

INGESTION : When a gas generated from the molten polymer has been inhaled, move to area of fresh air without delay and wait until the victim is recovered. If sick feeling continues, ask a physician for advice.

SKIN CONTACT	:	Cool the contacted skin with clean water without delay, if a contact with the polymer in a molten form. Do not force to remove the solid resin on the skin. If any burns are observed on the skin, ask a physician for advice.
EYE CONTACT	:	Cool and rinse the eye with clean water for at least 15 minutes when the eyes had contact with molten polymer. In case of wearing contact lenses, remove the lenses as soon as possible, and ask a physician for advice. When the eye had contact with the polymer in an ordinary solid form, rinse the eye with clean water without delay. If the discomfort persists, ask a physician for advice.
SWALLOW	:	Help to vomit as much as possible. If sick feeling continues, and ask a physician for advice.

5. Fire-fighting measures

EXTINGUISHING MEDIA	:	Water, foam fire-extinguishing agent, powder fire-extinguishing agent, and carbon dioxide gas.
SPECIFIC METHODS	:	Extinguish the fire with water. A method of extinguishing an ordinary fire may be applied. Do not apply water directly to processing machines.
SPECIFIC HAZARDS	:	Incomplete combustion leads to generation of toxic gases such as carbon monoxide or formaldehyde, in addition to carbonic acid gas and water.
SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS	:	In case the fire gained force, use a gas mask or other protective equipment.

6. Accidental release measures

PERSONAL PRECAUTIONS	:	When pellets were spilled on the road or floor, wipe them off with a besom or cleaner not to cause slipping.
ENVIRONMENTAL PRECAUTION	:	Handle the spillage in accordance with provisions given in the "Resin pellet spillage preventive manual", in order to prevent intakes by marine animals and birds.

7. Handling and storage

HANDLING	:	Polyacetal resin in a pellet form will neither ignite nor explode at room temperatures, but it falls under the inflammables designated by the Fire Service Law. Keep it away from the igniting sources, as it quickly gains force once it is ignited.
HANDLING 2	:	Polyacetal resin in a powdered form is likely to cause dust explosion and is therefore designated in the Guideline for Hazard of Dust Explosion in U.S.Bureau of Mines. Effective earthing means or use of inert gas like N2 are required for dust handling equipment to eliminate static electricity.
HANDLING 3	:	This pellets spilled on the floor are likely to cause slipping. Remove such spillage at any times.
HANDLING 4	:	For molding work, effective means for local exhaust are required to discharge gases generated by melt processing.
HANDLING 5	:	Avoid inhaling of gases generated in molding work. Do not directly touch resin of high temperature.
HANDLING 6	:	Avoid retaining hot resin in the processing machines for many hours.
HANDLING 7	:	Avoid mixed extrusion with strong acid, oxidizing agents and PVC.
STORAGE	:	Keep the substance away from any fire or heat sources for the sake of safe storage.
STORAGE 2	:	This polymer is a synthetic resin designated as an inflammable substance by the Fire Service Law and should be handled in accordance with municipal rules and regulations (concerning fire-fighting equipment, indoor storage, for instance).

RECOMMENDED PACKAGING MATERIALS	:	No information.

8. Exposure controls/ personal protection

CONTROL CONCENTRATION	:	None at present
PERMISSIBLE CONCENTRATION	:	OSHA PEL/1985 Max. permissible concentration of inactive powder 15mg/m3 - ditto - (Aspiration) 5mg/m3 ACGIH TLV/1992 1993 Exposure limit of the powder TWA 10 mg/m3 (Reference) Human exposure to formaldehyde - Ministry of Health & Welfare/2002 Guideline value 0.08 ppm OSHA Parameter/1992 TWA 0.75 ppm STEL 2 ppm ACGIH TLV/1992 1993 TWA 0.3 ppm
ENGINEERING MEASURE	:	・When handling dust: Use totally enclosed containers resisting dust explosion. ・When heat melted in molding: Effective local ventilation must be provided.
PERSONAL PROTECTIVE EQUIPMENT		
RESPIRATORY PROTECTION	:	Wear a dust-proof mask.
HAND PROTECTION	:	Wear heat-resisting gloves against burns, when handling molten polymer.
EYE PROTECTION	:	Wear protective glasses or goggles.
SKIN & BODY PROTECTION	:	Wear long sleeve clothes against burns, when handling molten polymer.

9. Physical and chemical properties

APPEARANCE etc.	:	Pellet
BOILING POINT	:	Not applicable
VAPOUR PRESSURE	:	Not applicable
VOLATILITY	:	Not applicable
INITIAL BOILING POINT	:	Not applicable
SUBLIMATION	:	None
MELTING POINT	:	165℃
DENSITY	:	1.41
SOLUBILITY	:	Insoluble in water
FLASH POINT	:	320℃ or higher
IGNITION POINT	:	400℃ or higher
EXPLOSION PROPERTY	:	Not applicable
INFLAMMABILITY	:	Inflammable(Designated as inflammable resin by the Fire Service Law)
REACTIVITY WITH WATER	:	None
OXIDIZABILITY	:	None
SELF-REACTIVITY	:	None
DUST EXPLOSIVENESS	:	Upper explosion limit : Not applicable. Lower explosion limit : 35g/m3

10. Stability and reactivity

STABILITY AND REACTIVITY	:	Stable for normal storage or handling.
CONDITIONS TO AVOID	:	Avoid contacts with strong acid, oxidizing agent or PVC under hot melt conditions.
HAZARDOUS DECOMPOSITION PRODUCTS	:	Formaldehyde will be generated when heated (for drying or melting) or burnt.

11. Toxicological information

SKIN CORROSION/IRRITATION	:	No finding.
SERIOUS EYE DAMAGE/IRRITATION	:	Gas generated in drying or melting is irritating eyes and skins.
RESPIRATORY OR SKIN SENSITISATION	:	No finding
ACUTE TOXICITY(INCLUDING LD50)	:	No finding.
SUBACUTE TOXICITY	:	No finding.
CHRONIC TOXICITY	:	No finding.
CARCINOGENECITY	:	No finding.
MUTAGENECITY(Micro organisms, chromosomal aberration)	:	No finding.
REPRODUCTIVE TOXICITY	:	No finding.
TERATOGENICITY	:	No finding.
OTHERS(Including generation of hazardous gases by reaction with water, for example)	:	No finding in this report means that there will be no hazard in general, but no proving data available at the time of reporting.
OTHER CAUTIONS	:	With regard to dust, the maximum permissible concentration and limits are fixed by OSHA and ACGIH.
OTHER CAUTIONS 2	:	Formaldehyde will be generated when heated (for drying or melting) or burnt.
OTHER CAUTIONS 3	:	Carcinogenicity class of formaldehyde, which may be generated if overheated. IARC(International Agency for Research on Cancer): Group1

12. Ecological information

BIODEGRADABILITY	:	No finding.
BIOACCUMULATION	:	No finding.
FISH TOXICITY	:	No finding.
HAZARDS TO OZONE LAYER	:	None

13. Disposal considerations

WASTE FROM RESIDUES	:	This is designated as waste plastics among industrial wastes by the Wastes Disposal Law. Disposal waste pellets through licensed wastes handlers or local autonomous bodies if they are handling wastes disposal.
WASTE FROM RESIDUES 2	:	When disposed by incineration, use the well controlled incinerators in accordance with the Wastes Disposal Law, Air Pollution Control Law and Water Pollution Prevention Law.

14. Transport information

UN CLASSIFICATION NUMBER	:	Not applicable
OTHER CAUTIONS	:	Handle with care so as not to give damages to containers or not to be subjected to wetting.
OTHER CAUTIONS 2	:	Secure the containers firmly so as not to cause collapsing.

15. Regulatory information

FIRE SERVICE LAW	:	Inflammable synthetic resin Designated quantity: More than 20m3 for the foamed product. More than 3,000 kg for other types.
WASTE DISPOSAL LAW	:	Waste plastics among industrial wastes.
OTHERS	:	Formaldehyde is designated as Class 2 substance by the Industrial Safety and Health Law(Regulations concerning hazards caused by specific chemicals) and designated as deleterious substance by the Poisons and Deleterious Substance Control Law. Recommended usage, criteria, and limit values are provided by Japan Industrial Safety and Health Society, OSHA and ACGIH.

16. Other information

HANDLING OF THE DETAILS GIVEN ABOVE	:	This SDS is the English version translated from the Japanese SDS which is prepared for domestic use.

Details given above are based on references, information and data available at this moment, but no warranty can be made on exactness of these details. They are also prepared on the assumption that the product will be handled in a normal way. For special handling, adequate safety and environmental measures should be taken in respect to its applications. Our products are not specifically intended for implants for medical and dental applications, and therefore they are not recommended for such applications.
"No finding" in this report means that there will be no hazard in general, but no proving data is available at the time of reporting.

WHERE TO CALL FOR FURTHER INFORMATION	:	Polyplastics Co., Ltd. Quality Assurance Dept. Tel. No 03-6711-8605

*DURACON® is a registered trademark of Polyplastics Co., Ltd. in Japan and other countries.

CHIMEI
奇美實業股份有限公司
CHI MEI CORPORATION

No. 59-1, SAN CHIA, JEN TE DISTRICT, TAINAN CITY, TAIWAN
TEL: +886-6-266-5000 FAX:+886-6-266-5555~7

General PC WONDERLITE® Characteristics PC-110

特性 PROPERTIES	測試方法 ASTM TEST METHOD	測試條件 TEST CONDITION	單位 UNIT	通用級 GENERAL PC-110
熔融指數 Melt Flow Index	D1238	300 ℃, 1.2 Kg	g/10 min	10.0
比重 Mass Density	D792	23 ℃	-	1.2
硬度 Hardness	D785	-	M Scale	77
拉伸強度 (屈服) Tensile Strength (Yield)	D638	6 mm/min	Kg/cm^2	630
			lb/in^2	8935
延伸率 Tensile Elongation	D638	6 mm/min	%	110
彎曲強度 Flexural Strength	D790	1.3 mm/min	Kg/cm^2	920
			lb/in^2	13030
彎曲彈性模數 Flexural Modulus	D790	1.3 mm/min	10^4 Kg/cm^2	2.4
			10^5 lb/in^2	3.4
IZOD 衝擊強度 Izod Impact Strength	D256 (Notched)	3.2 mm, 23℃	Kg-cm/cm	87
			ft-lb/in	15.9
維氏軟化溫度 Vicat Softening Temp.	D1525	1 Kg,50 ℃/hr	℃	150
熱變形溫度 Heat Distortion Temp.	D648 (annealed)	132℃×8 hours Loading 4.6 kg/cm^2	℃	146
UL 燃燒等級 UL Flammability	UL 94	-	-	1.5 mm V-2

January 23, 2014

Notes：These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

The above statement is based on our current level of knowledge and covers the above products directly manufactured and supplied by CHI MEI CORPORATION at the date of issue. CHI MEI CORPORATION makes no warranties, whether express or implied, and assumes no liability in connection with any use of above information. Notwithstanding the foregoing, CHI MEI CORPORATION shall in no event be held obligated or liable for any claims due to or arising from (i) any customer provided, consigned, materials and/or parts, which are incorporated or adopted in the products; (ii) any combination of the products with material not provided or authorized by our company; (iii) any modifications to the products which are made or directed by customer; (iv) our compliance with the specifications, instructions, and/or designs provided by customer; (v) any anti-trust, unfair competition and/or other unlawful actions effected by customer; or (vi) any defects, infringement, breach and/or violation which are arising out of customer's faults or otherwise not solely and directly attributable to CHI MEI CORPORATION. In no event will CHI MEI CORPORATION be liable for any indirect, special, exemplary, punitive, or consequential damages (including lost profits) of any nature whatsoever whether arising out of the purchase, shipment, unloading, handling, or use of any product or otherwise.