研究报告 Research Report

20 Nov 2022

方邦股份 Guangzhou Fangbang Electronics (688020 CH)

业绩短期承压，锂电 PET 铜箔研发积极推进

Performance Bears Pressure in the Short Term; R&D of Lithium Battery PET Composite Copper Foil has been Actively Promoted

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热点速评 Flash Analysis

(Please see APPENDIX 1 for English summary)

- **2022 年前三季度扣非净利润-6249 万元，同比减少 281.46%。**公司 2022 年前三季度实现营业收入 2.39 亿元，同比增长 29.41%，归母净利润-5388 万元，同比减少 213.39%。其中 2022 年第三季度实现营业收入 6814 万元，同比增长 9.17%，归母净利润-2175 万元，同比减少 312.29%，扣非净利润-2506 万元，同比减少 645.01%。公司三季度业绩承压：（1）由于铜箔业务产品主要为锂电铜箔、标准电子铜箔，为过渡性产品，且报告期内铜箔客户类型主要为贸易商客户，销售价格低于市场平均水平，铜箔的产能利用率、良率仍低于行业平均水平，同时，二季度和三季度受疫情、公司产品结构调整等影响销量出现明显下降，铜箔生产成本较高,导致铜箔业务净利润亏损 7306.72 万元；（2）屏蔽膜业务因智能手机销量下降导致屏蔽膜销量相应下降，同时销售价格小幅下降，以及公司搬入新园区后相应运营成本增加等，导致屏蔽膜业务净利润同比下降约 2700 万元；（3）受闲置资金减少以及理财收益率下降影响，导致相应收益略有下降。针对铜箔业务亏损，公司正在积极采取一系列措施进行改善，包括：加快新产品研发和认证进度、积极实施客户转型和铜箔产品转型、以及降成本管控等，力争尽快降低铜箔业务亏损直至实现盈利。

- **集流体 PET 复合铜箔研发工作积极推进。**锂电铜箔是制备锂电池负极材料的必需基材，优质的锂电铜箔可提升锂电池能量密度。与传统锂电铜箔相比，复合锂电铜箔具有安全性高、能量密度高、使用寿命长等优势。该材料为夹层状结构，以厚度为 4~8μm 的 PET、PI、PPS 等高分子薄膜作为支撑层，两面是厚度为 0.5~4μm 的铜层。两面镀铜层粗糙度低，厚度均匀，微观晶体结构细密，可广泛应用于动力电池、新能源汽车等领域。锂电铜箔：主要特点为机械性能良好，表面轮廓低，厚度 4.5-8.0μm 可定制化，M 面粗糙度≤2.0μm，达因值≥36，拉伸强度≥300N/mm²，延伸率≥8%，目前公司产品性能处于国际先进水平。目前市场上锂电铜箔主流厚度为 6μm，并逐步向 4.5μm 发展，公司生产的锂电铜箔可满足以上需求。目前锂电铜箔的厚度已来到 4.5 微米，预计还将追求更薄的厚度以进一步提高能量密度，超薄铜箔的技术空间、市场空间将得到进一步打开。PET 复合铜箔与公司当前主营产品电磁屏蔽膜在核心制备技术上具有一定契合性（真空溅射技术、电化学技术）。公司在 PET 复合铜箔领域进行了研发布局，目前在持续优化工艺、参数以进一步提升产品剥离强度、延伸率等关键性能指标，同时与相关下游客户进行技术对接，未进行产品送样、认证，相关研发未对公司生产经营产生重大影响。

- **正负极集流体材料市场前景广阔。**铜箔和铝箔是锂电池的正负极集流体材料，成本占比在 15%左右。近年来，电池用铜箔、铝箔行业随着新能源汽车市场飞速发展而同步起飞。在 2014 年，国内锂电池出货量只有 30GWh，但到了 2020 年已经达到 158.4GWh，6 年里翻 5 倍。同期锂电铜箔的出货量从 3.1 万吨提升至 14.6 万吨，复合增速高达 29%，增长也是接近 5 倍。根据电池中国，预计 2025 年全球电动车销量将达到 1800 万辆，2021-2025 年复合增速为 36%，预计铜箔到 2025 年的总需求约为 109 万吨，而锂电铝箔需求增长同样是受新能源汽车产业的拉动，预计全球电池箔需求量在 2025 年达到 74 万吨，年复合增速 37%。目前锂电铝箔平均售价 4 万元/吨，据此测算，2025 年电池箔市场空间 296 亿元。

- **集流体铜箔产品技术门槛高。**公司拥有自主开发的磁控真空溅射、精密涂布、连续卷状电沉积以及高性能树脂合成及配方等四大平台技术，并可实现各技术间的组合创新。原因在于，将导体材料与绝缘材料进行结合，形成高性能复合材料，这是制备高端电子材料的底层技术路径。一方面，通过自主开发的真空溅射、连续卷状电沉积技术，公司可生产各种功能的金属箔，如超薄铜箔、标准铜箔等，其厚度、粗糙度以及表面形貌可定制；另一方面，通过精密涂布以及特殊配方技术，公司可生产绝缘薄膜，例如 TPI、BT 树脂、改性环氧树脂、丙烯酸树脂等。

具备以上基础后，通过将金属箔与绝缘膜进行搭配组合，公司可生产各种功能的高端电子材料（薄膜），如铜箔搭配 PI/MPI，制备极薄挠性覆铜板以及特殊结构的复合金属箔、电阻薄膜等，从而快速地、定制化地满足下游终端的最新技术需求。

- **复合铜箔新品成长动力充足。**可剥离超薄铜箔目前正在进行客户认证。目前产品已基本通过物性、工艺测试，目前产品送样品质较为稳定，后续还需要经过大批量、终端认证等稳定性测试认证环节。可剥铜用于芯片封装，若出现品质不稳定，将导致无法加工、芯片失效等较严重问题，因此公司、下游客户都高度谨慎，认证环节严苛，认证周期较长，可剥铜通过客户认证及具体订单的落实时间存在不确定性。挠性覆铜板（FCCL）项目，第一期产线已完成调试，目前正在进行试产工作。部分系列普通 FCCL 产品已在三季度及 10 月份落实小额订单。公司先通过部分客户积累产品市场数据，逐步提升产品市场影响力及打造产品品牌。FCCL 原材料主要为铜箔和聚酰亚胺，公司 FCCL 产品使用珠海子公司生产的铜箔，无需外采，因此量产成本上更具优势。电阻薄膜产品目前处于客户认证阶段。部分系列产品已通过部分重要客户的基本物性及工艺测试、批量稳定性测试，后续还需要经过终端认证环节；部分系列产品正在进行物性、工艺测试，后续将进行小批量、大批量、终端测试等稳定性测试认证环节，整个认证周期具有不确定性。

- **风险提示：**知识产权风险；行业竞争加剧风险；产品结构单一风险。

APPENDIX 1

Summary

- **Recurring profit in 2022Q1-Q3 is RMB-62.49mn (-281.46% YoY).** In 2022Q1-Q3, the Company realized an operating revenue of RMB239mn (+29.41% YoY), and NPAtS of RMB-53.88mn (-213.39% YoY). In 2022Q3, the operating revenue was RMB68.14mn (-9.17% YoY), the NPAtS was RMB-21.75mn (-312.29% YoY), and the recurring profit was RMB-25.06mn (-645.01%).The company's profit in 2022Q3 was under pressure: (1) As the products of copper foil business are mainly lithium battery copper foil and standard electronic copper foil, which are transitional products, and the types of copper foil customers during the reporting period are mainly traders' customers, the sales price is lower than the market average, and the capacity utilization rate and yield rate of copper foil are still lower than the industry average. At the same time, due to the impact of the epidemic situation and the adjustment of the company's product structure, the sales volume decreased significantly in the second and third quarters, and the production cost of copper foil was high, The net profit loss of copper foil business was RMB73067200; (2) Due to the decrease of smartphone sales, the shielding film sales decreased correspondingly, while the sales price decreased slightly, and the corresponding operating costs increased after the company moved into the new park, resulting in a decrease of about RMB27mn in the net profit of the shielding film business year on year; (3) Affected by the decrease of idle funds and the decline of financial management yield, the corresponding income decreased slightly. For the loss of copper foil business, the company is actively taking a series of measures to improve, including: speeding up the progress of new product development and certification, actively implementing customer transformation and copper foil product transformation, and reducing cost management and control, and striving to reduce the loss of copper foil business as soon as possible until it is profitable.
- **The research and development of lithium battery PET composite copper foil was actively promoted.** Copper foil for lithium battery is an essential base material for preparing anode materials for lithium battery. High quality copper foil for lithium battery can improve the energy density of lithium battery. Lithium battery copper foil: mainly characterized by good mechanical performance, low surface profile and 4.5-8.0 thickness μ M can be customized, M surface roughness ≤ 2.0 μ m. Dyne value ≥ 36, tensile strength ≥ 300N/mm ²， Elongation rate ≥ 8%. At present, the company's product performance is at the international advanced level. At present, the mainstream thickness of lithium copper foil on the market is 6 μ m. And gradually to 4.5μm Development, the lithium copper foil produced by the company can meet the above needs. The lithium battery copper foil products in the ultra-thin copper foil produced by the company are used in the lithium battery industry, which will mainly benefit from the global automotive electrification. At present, the thickness of lithium copper foil has reached 4.5 microns, and it is expected that thinner thickness will be pursued to further improve the energy density. The technical space and market space of ultra-thin copper foil will be further opened. PET composite copper foil and the company's current main product electromagnetic shielding film have a certain consistency in the core preparation technology (vacuum sputtering technology, electrochemical technology). The company has carried out research and development layout in the field of PET composite copper foil. At present, it is continuously optimizing the process and parameters to further improve the key performance indicators such as the peel strength and elongation of the product. At the same time, it has conducted technical docking with relevant downstream customers, and has not conducted product sample delivery and certification. The relevant research and development has not had a significant impact on the company's production and operation.
- **The positive and negative collector fluid materials have broad market prospects.** Copper foil and aluminum foil are the positive and negative collector materials of lithium battery, with the cost accounting for about 15%. In recent years, the battery copper foil and aluminum foil industries have taken off synchronously with the rapid development of the new energy vehicle market. In 2014, the domestic lithium battery shipment volume was only 30GWh, but it has reached 158.4GWh by 2020, a five fold increase in six years. In the same period, the shipment of lithium battery copper foil increased from 31000 tons to 146000 tons, with a compound growth rate of 29%, which was also nearly 5 times. According to lithium battery China, it is estimated that the global sales of electric vehicles will reach 18 million in 2025, with a compound growth rate of 36% from 2021-2025. It is estimated that the total demand for copper foil will be about 1.09 million tons by 2025, while the demand for lithium battery aluminum foil will also be driven by the new energy automobile industry. It is estimated that the global demand for battery foil will reach 740000 tons in 2025, with a compound growth rate of 37% annually. At present, the average selling price of lithium battery aluminum foil is 40000 RMB/ton. According to this calculation, the market space of battery foil in 2025 will be RMB29.6bn.

- **High technical threshold of copper foil.** The company has four platform technologies independently developed, namely, magnetron vacuum sputtering, precision coating, continuous roll electrodeposition and high-performance resin synthesis and formulation, and can realize the combination and innovation of various technologies. The reason is that the combination of conductor materials and insulating materials forms high-performance composites, which is the underlying technology path for preparing high-end electronic materials. On the one hand, through the self-developed vacuum sputtering and continuous roll electrodeposition technology, the company can produce metal foils with various functions, such as ultra-thin copper foil, standard copper foil, etc., and its thickness, roughness and surface morphology can be customized; On the other hand, through precision coating and special formula technology, the company can produce insulating films, such as TPI, BT resin, modified epoxy resin, acrylic resin, etc. With the above foundation, the company can produce high-end electronic materials (films) with various functions by matching and combining metal foils and insulating films, such as copper foils with PI/MPI, preparing ultra-thin flexible copper clad plates and composite metal foils and resistance films with special structures, so as to quickly and custom-made meet the latest technical requirements of downstream terminals.
- **The new product has sufficient growth momentum.** Strippable ultra-thin copper foil is currently undergoing customer certification. At present, the products have basically passed the physical property and process tests. At present, the quality of product samples is relatively stable, and the subsequent stability testing and certification processes such as mass production and terminal certification are required. Strippable copper is used for chip packaging. If the quality is unstable, it will lead to more serious problems such as inability to process and chip failure. Therefore, the company and downstream customers are highly cautious, the certification process is strict, and the certification cycle is long. There is uncertainty when strippable copper passes customer certification and the specific order is implemented. The commissioning of the first phase production line of the Flexible Copper Clad Laminate (FCCL) project has been completed, and the trial production is currently under way. Some series of ordinary FCCL products have placed small orders in 2022Q3 and October. The company first accumulates product market data through some customers to gradually enhance the product market influence and build product brands. The raw materials of FCCL are mainly copper foil and polyimide. The company's FCCL products use copper foil produced by Zhuhai subsidiary, which does not need to be outsourced, so it has more advantages in mass production costs. Resistance film products are currently in the customer certification stage. Some series of products have passed the basic physical property and process tests and batch stability tests of some important customers, and the terminal certification is required later; Some series of products are undergoing physical property and process testing, and stability testing and certification links such as small batch, large batch and terminal testing will be carried out subsequently. The whole certification cycle is uncertain.
- **Risks.** Intellectual property risks; increased industry competition risks; single product structure risks.

附录 APPENDIX

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分析师股票评级

优于大市，未来 12-18 个月内预期相对基准指数涨幅在 10%以上，基准定义如下

中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

弱于大市，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

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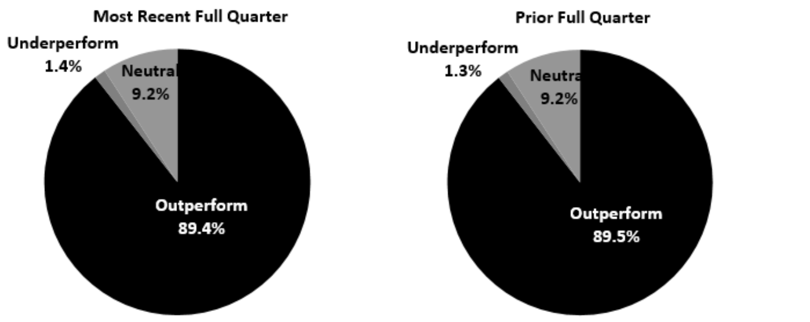

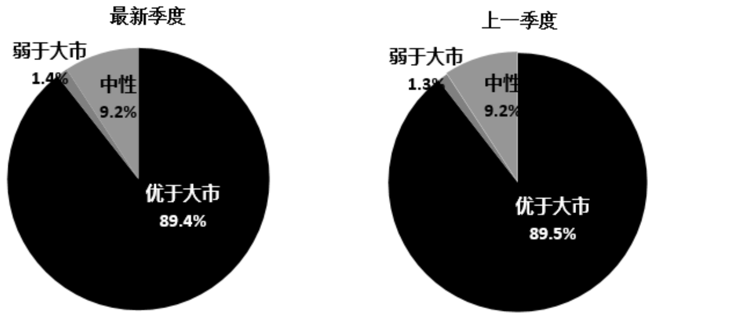

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Analyst Stock Ratings

Outperform: The stock's total return over the next 12-18 months is expected to exceed the return of its relevant broad market benchmark, as indicated below.

Neutral: The stock's total return over the next 12-18 months is expected to be in line with the return of its relevant broad market benchmark, as indicated below. For purposes only of FINRA/NYSE ratings distribution rules, our Neutral rating falls into a hold rating category.

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Benchmarks for each stock's listed region are as follows: Japan – TOPIX, Korea – KOSPI, Taiwan – TAIEX, India – Nifty100, US – SP500; for all other China-concept stocks – MSCI China.

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	优于大市	中性 (持有)	弱于大市
海通国际股票研究覆盖率	89.4%	9.2%	1.4%
投资银行客户*	5.5%	6.8%	4.5%

*在每个评级类别里投资银行客户所占的百分比。

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中性，未来 12-18 个月内预期相对基准指数变化不大，基准定义如下。根据 FINRA/NYSE 的评级分布规则，我们会将中性评级划入持有这一类别。

卖出，未来 12-18 个月内预期相对基准指数跌幅在 10%以上，基准定义如下

各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100; 其他所有中国概念股 – MSCI China.

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	Outperform	Neutral (hold)	Underperform
HTI Equity Research Coverage	89.4%	9.2%	1.4%
IB clients*	5.5%	6.8%	4.5%

*Percentage of investment banking clients in each rating category.

BUY, Neutral, and SELL in the above distribution correspond to our current ratings of Outperform, Neutral, and Underperform.

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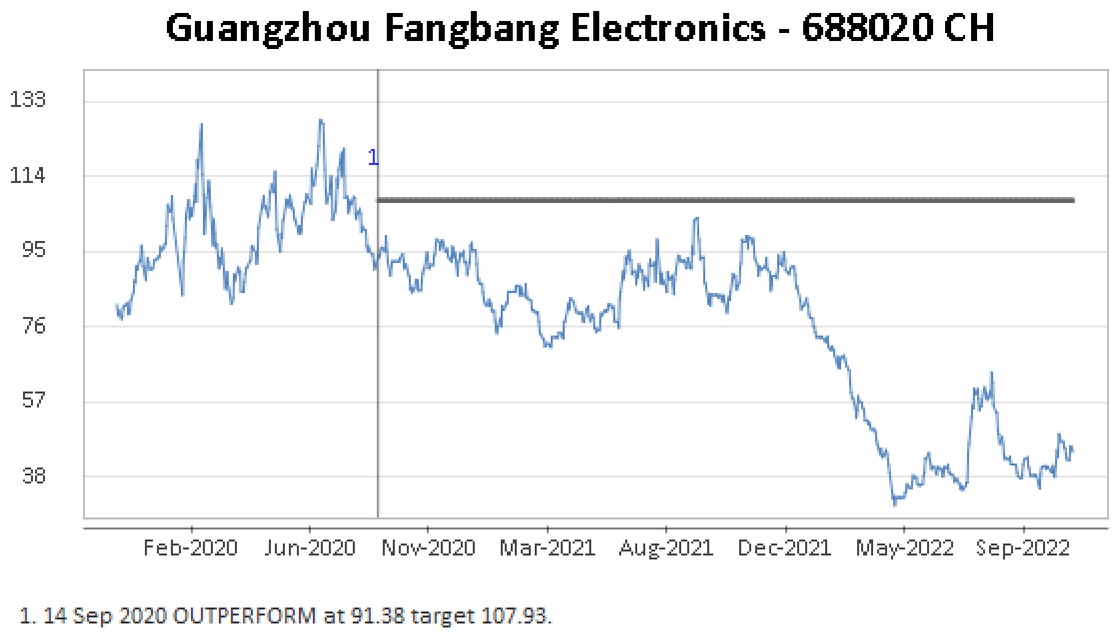
Recommendation Chart



Source: Company data Bloomberg, HTI estimates