



ทะเบียนเลขที่ บมจ. 0107547000508



## Life Cycle Assessment of Products and Processes (LCA) on Global Warming

In 2024, Fortune Parts Industry Public Company Limited (FPI) conducted a comprehensive Life Cycle Assessment (LCA) for our key products, focusing on the Global Warming Potential (GWP). This assessment utilized a Full LCA methodology with a complete Cradle-to-Cradle scope. This rigorous approach ensures the environmental impact is captured from the initial raw material sourcing to the final product's end-of-life and subsequent material reuse or recycling, reflecting our strong commitment to the circular economy.

The assessment was performed using a blend of our Primary operational data from 2021 and 2023 and industry-standard Secondary Emission Factors. Crucially, the results were externally verified by Kasetsart University, operating under the framework of the Thailand Greenhouse Gas Management Organization (TGO), ensuring compliance with ISO 14040/44 standards for data integrity and methodological robustness.

Element	Description
Assessment Type	Full LCAs
Goal	To accurately quantify the Global Warming Potential (GWP) of our B2B components, identify environmental improvement opportunities (Hotspots) across the value chain, and secure the TGO Carbon Reduction Label to validate our low-carbon claims.
Scope	<ul style="list-style-type: none"><li>● <b>Cradle-to-Gate:</b> Used for Product impact assessment up to the factory gate (handover to B2B customer).<ul style="list-style-type: none"><li>○ This scope covered <b>17 representative products</b> (selected from top sales in each region), accounting for <b>13.27%</b> of total production <b>by weight</b>.</li></ul></li><li>● <b>Cradle-to-Gate:</b> Used for <b>Process-specific</b> assessment of high-impact internal operations (Injection, Plating, Painting).<ul style="list-style-type: none"><li>○ Covering 100% of all relevant manufacturing processes</li></ul></li></ul>
Third-Party Verification	YES
Verifier	The LCA results were rigorously verified by Kasetsart University, operating under the framework of the Thailand Greenhouse Gas Management Organization (TGO).
Verification Standards	The entire assessment and the verification process adhere to international standards, specifically ISO 14040/44.
Data Integrity	Verification confirms the robustness of the methodology, including the use of Primary operational data and the validity of the Secondary Emission Factors used.



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Element				Total Carbon Footprint (kgCO2eq)		2023 (%)					
No	Product / Process	Functional Unit	kg/PCS	2021	2023	Raw Material Extraction	Production	Reduction	Distribution / Transportation	Use Phase	End-of-Life Treatment
Bumper											
1	TYB175 00 NA A	PCS	3.69	7.50	6.84	47.13%	52.87%	-8.84%	Not Applicable <sup>(1)</sup>		
2	HYB103 00 NA A	PCS	3.38	7.12	6.50	49.09%	50.91%	-8.82%			
3	TYB167 00 NA A	PCS	3.06	6.89	6.32	52.51%	47.49%	-8.36%			
4	HYB155 00 NA A	PCS	2.95	12.43	11.35	74.56%	25.44%	-8.66%			
5	TYB255 00 NA A	PCS	3.69	7.88	7.12	49.28%	50.72%	-9.59%			
6	TYB081 00 NC A	PCS	3.61	7.34	6.66	46.89%	53.11%	-9.27%			
7	HYB157 00 NA A	PCS	4.04	8.55	7.76	49.07%	50.93%	-9.25%			
8	TYB387 00 NA A	PCS	4.21	9.24	8.38	50.73%	49.27%	-9.31%			
9	SZB069 00 NA A	PCS	2.54	5.49	5.15	51.63%	48.37%	-6.26%			
10	TYB386 00 NA A	PCS	3.96	8.55	7.87	50.75%	49.25%	-7.95%			
11	TYB363 00 NA A	PCS	3.39	7.41	6.80	51.09%	48.91%	-8.25%			
12	MBB141 00 NA	PCS	4.59	9.72	8.82	48.96%	51.04%	-9.29%			
13	TYB261 00 NA A	PCS	3.46	7.52	6.82	50.31%	49.69%	-9.33%			
14	TYB204 00 NA A	PCS	2.70	6.23	5.67	53.36%	46.64%	-8.90%			
15	MBB155 00 NA A	PCS	4.07	9.11	8.52	53.24%	46.76%	-6.45%			
Grille											
16	TYG175 30 C A	PCS	1.42	29.80	29.97	42.58%	57.42%	0.59%	Not Applicable <sup>(1)</sup>		
17	NSG072 30 C A	PCS	1.34	23.34	23.51	29.83%	70.17%	0.71%			



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Element				Total Carbon Footprint (kgCO <sub>2</sub> eq)		2023 (%)					
No	Product / Process	Functional Unit	kg/PCS	2021	2023	Raw Material Extraction	Production	Reduction	Distribution / Transportation	Use Phase	End-of-Life Treatment
Process											
1	Plastic Injection Molding	kg	-	1.15	0.96	0.00%	100.00%	-16.21%	Not Applicable <sup>(1)</sup>		
2	Electroplating Process	m3	-	13.07	13.68	25.01%	74.99%	4.68%			
3	Painting / Coating Process	m3	-	13.79	16.61	12.19%	87.81%	20.42%			

**Notes:** Not Applicable<sup>(1)</sup> The **Total Carbon Footprint** figures presented here are based on a **Cradle-to-Gate** System Boundary for the product assessment. Therefore, the impact from the Distribution, Use Phase, and End-of-Life (EoL) stages are **Not Applicable (N/A)** to this specific calculated GWP value.



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