

Closed Loop Manufacturing System Overview



We have implemented a Closed Loop Manufacturing System to optimize water & waste across the production processes for all our product lines.



WE TREAT 100% OF OUR WASTEWATER AND PARTIALLY REUSE IT ON-SITE

- We have 3 Effluent Treatment Plants (ETP) that treated 0.9 M m3 and 1.03 M m3 in 2022 and 2023 respectively
- In addition, we have 1 Sewage Treatment Plant (STP) that treated 223,074 m3 and 188,081 m3 of wastewater in 2022 and 2023 respectively.
- Approximately 100-125 m3 of wastewater is discharged per hour from factories, which undergoes preliminary treatment and is injected with coagulant and flocculant. The wastewater is filtered and separated into recycled water & sludge. Part of the recycled water is distributed to the factories, and the wet sludge is dried & reused in production. Between 70-75% of sludge is used by Tiles.
- Over time, we have been reducing our freshwater consumption and since 2020, approximately 70% of all water consumption is from recycled water.



100% OF NON-HAZARDOUS WASTE IS EITHER REINTRODUCED IN PRODUCTION OR RECYCLED BY 3RD PARTIES

- In Tiles production: 85-90% of waste from Tiles is reintroduced in Tiles itself, including Fired Tiles, Green Tiles, Squaring Waste Powder and Polishing Sludge. Tiles also uses waste from other production processes and the ETP.
- In Sanitaryware production: From the total waste generated from Sanitary Ware plant, 100% Greenware Waste is recycled and reintroduced within Sanitary Ware raw material production. 16.7% of Fired Ware rejects is reprocessed and reintroduced with raw material production, while the remaining fired wastes moved to Tiles plant process. 92.5% of waste glaze materials is also recycled and introduced in Raw glaze production and the remaining is forwarded to common ETP.
- In Table Ware production: 80% of rejected pieces are reintroduced in production and 20% is forwarded to Tiles.
- In Faucets production: 100% of rejected pieces are reintroduced in Faucet production itself.

Water Sustainability

We operate 3 Effluent Treatment Plants, 1 Sewage Treatment Plant and 1 Desalination Plant

In 2023, our water sustainability efforts remained a focal point of our environmental stewardship initiatives.

Despite a 7.44% increase in water intensity of sales, reflecting the shift to the production of a more resource-intensive product GP, we demonstrated a significant commitment to managing our water resources responsibly. Notably, we treated 10.38% more wastewater in our three Effluent Treatment Plants (ETPs) and saw a 5.37% increase in total wastewater treated on-site compared to 2022. Impressively, 100% of all our wastewater continues to be treated on-site, ensuring compliance with regulatory standards and minimizing environmental impact. While there was a decrease of 15.69% in wastewater treated in our Sewage Treatment Plant (STP), this was complemented by a noteworthy 39.79% increase in desalinated water treated compared to 2022. These performance metrics underscore our ongoing commitment to water sustainability, reflecting our dedication to environmental conservation and responsible resource management.

Initiatives for 2024

Continue working towards achieving the Water Stewardship certification by SAS Global.

7.44%

Increase in water intensity of sales

10.38%

Increase in wastewater treated in our 3 ETPs compared to 2022

5.37%

Increase in total wastewater treated compared to 2022

100%

Of all our wastewater is treated on-site.

-15.69%

Reduction in wastewater treated in our STP compared to 2022

39.79%

Increase in desalinated water treated compared to 2022

Water Sustainability (contd.)

TILES PRODUCTION

Our overall water intensity of tiles production (m3 / unit) has increased from 0.027 to 0.039 between 2022-23. The increase in water consumption is attributed to greater production of GP Tiles, which is more water intensive to produce. Although the production of a more water-intensive product caused our water consumption to increase, we actively implemented initiatives to reduce water consumption, reuse water and reduce spillages and wastage of water. Examples of initiatives include reutilization of wastewater in body preparation area and setting up auto cutoff system /sensors in glaze lines and polishing.

12.17%

Increase in treated water consumption compared to 2022

TABLEWARE PRODUCTION

Tableware production increased by 13.7% in 2023, accompanied by plant upgrades within our factory premises. These upgrades led to a notable 20% rise in water consumption. Despite this increase, concerted efforts were made to mitigate water usage, resulting in a marginal 5.56% rise in the water intensity of tableware production. Notably, this increase in water intensity remained lower than the overall rise in water consumption, underscoring our commitment to efficient resource management and sustainability in our operations.

5.56%

Increase in water intensity of production compared to 2022

SANITARY WARE PRODUCTION

We continue to strive to reduce the water intensity of our sanitary ware production and sales.

In 2023, we increased the water intensity of production by 10.24%. However, we observed a reduction in the water intensity of sales by 13.4%

10.24%

Increase in water intensity of production compared to 2022

-13.40%

Reduction in water intensity of sales compared to 2022

FAUCETS PRODUCTION

Efforts were dedicated to curbing water consumption in faucets production as we expanded our capacities.

These endeavors yielded promising results, with a notable 31.8% reduction observed in the water intensity of our production processes. Moreover, to further enhance sustainability practices, we implemented a wastewater reuse system within our facility. This system repurposes wastewater for irrigation, toilet flushing, as well as for use in boilers and chillers, contributing to our environmental objectives. Consequently, there was a significant increase of 19.88% in the utilization of wastewater across various functions within the facility, reflecting our commitment to maximizing resource efficiency and minimizing environmental impact.

-31.8%

Reduction in water intensity of production compared to 2022

19.88%

Increase in wastewater utilization

Waste & Circularity

Our approach to managing waste

In 2023, we remained dedicated to waste reduction and circularity through a multifaceted approach that maximized in-house resources and minimized environmental impact. Leveraging internal capabilities such as carpentry, photo studio facilities, and skilled manpower, we undertook various marketing activities, including the production of marketing tools such as MDF and wooden base displays, showroom renovations, and creative enhancements for Tiles and Sanitaryware products. This initiative not only resulted in significant cost savings but also reduced transportation requirements, thereby minimizing CO2 emissions. Additionally, we adopted a more sustainable approach to promotional materials by reducing the printing of catalogues and reports by 40% globally. Instead, we embraced digital alternatives such as E-catalogues, USB drives, and product information delivered via email links and newsletters.

We also implemented strategic initiatives aimed at optimizing waste management processes. Introducing third-party vendors in collaboration with the central store team facilitated the collection of recyclable materials from general and special waste bins, resulting in the collection of 159 tons of recyclable waste. This endeavor not only generated revenue of 31,687 AED from the sale of recyclable waste but also led to substantial savings of 4,650 AED in municipality disposal and operational charges. Moreover, the introduction of third-party vendors for non-recyclable waste, including items like used tires and expired fire extinguishers, further bolstered the company's waste management efforts. This initiative generated additional revenue of 11,340 AED and saved 8,752 AED in disposal and operational charges. Overall, these initiatives resulted in direct revenue generation of 43,027 AED and total savings of 56,429 AED.

By embracing these initiatives, RAK Ceramics demonstrates its ongoing commitment to waste reduction, sustainability, and environmental stewardship, contributing to a more circular and environmentally responsible business model.

100%

of non-hazardous waste is either reintroduced in production or recycled by 3rd parties

We have

ZERO WASTE

to Landfill (Non-hazardous waste only)

5.82%

Increase in Raw materials in 2023 compared to 2022

-34.24%

Reduction in volume of waste generated in 2023 compared to 2022

-32.91%

Reduction in Waste Intensity of Sales in 2023 compared to 2022

Initiatives for 2024

Continue to reduce raw material intensity and increase use of waste in production processes.