

Materials & Corrosion Engineer

Singapore

CountrySingapore**Work Location (City)**Singapore

The Role

Where you fit in

Provide technical support in corrosion and materials issues (e.g. RBI - Risk Based Inspection, CCDs – Corrosion Control Documents, IOWs – Integrity Operating Windows, MOCs – Management of Change and failure analysis) to work effectively in a team environment. This typically includes close working with Mechanical Static & Inspection Engineers, along with multiple other site support staff in Process Engineering, Operations, Maintenance, Turnaround and Major Projects.

What's the role?

As Materials & Corrosion Engineer, your key accountabilities include the following:

- Provide proactive technical support on issues related to corrosion mechanisms, corrosion control, inspection techniques/effectiveness and metallurgy for plant changes, and new projects.
- Provide material selection and technical support to assist process engineers, operations specialists, and Inspection Engineers in day-to-day activities related to metallurgy, welding, and corrosion control.
- Accountable for scheduled RBI re-assessments and OTR (On The Run) upkeep of RBI for individual equipment. Working with Inspection Engineers to develop and integrate recommendations into piping and equipment inspection strategies and active schedules.
- Regular monitoring of identified IOWs (Integrity Operating Windows) within the process units that may affect degradation of Pressure Equipment. Make recommendations based on deviations from IOW limits. Update any IOWs using the site MOC process including Ensure Safe Production (ESP) work process.
- Provide technical input to chemical inhibitor programs, boiler feed water, and cooling water treatment programs, and other chemical treatment programs.
- Assist in performing root cause analysis, coordinate failure analysis activities, and recommend mitigation methods for corrosion and materials issues, including repair strategies and replacement decisions.
- Network with other Corrosion & Materials Engineers in Shell or professional organizations to learn from, share location experiences, assist in review and improvement of Shell's documents and procedures.

What we need from you

To succeed in this role, you will have:

- Bachelor's degree in Engineering, Chemistry, or Material Science.

- Minimum 3-5 years of relevant work experience.
- Preferred experience in the field of metallurgy and/or corrosion control/mitigation Energy industry.
- Candidate must possess excellent communication, analytical, and problem-solving skills and have the ability to work with people and facilitate small teams to deliver a specific task (e.g. root cause investigation).
- Knowledge of plant processes, damage mechanisms, and material properties.
- Knowledge of RBI process for Pressure Equipment.
- Knowledge of Pressure Equipment design principles and applicable repair techniques.
- Knowledge of NDT (Non-Destructive Testing) techniques including selection for specific damage mechanisms.
- Self-starter who can set own goals and direction with minimal supervision.

Company Description

Shell is one of the largest foreign investors in Singapore and began operations in 1891. Today, we have more than 3,200 employees in Singapore alone. Shell Jurong Island (SJI) manufactures petrochemicals to meet the fast-growing demand for these products in the region. The Pulau Bukom Manufacturing Site today is the largest Shell refinery in the world in terms of crude distillation capacity, which makes Singapore a key regional supply and trading centre for Shell in the East. Singapore is the largest petrochemical production and export centre in the Asia Pacific region. We also have one of the largest single-branded retail networks in Singapore, providing customers with a wide range of quality products and services. When you join Shell in Singapore, you can count on our commitment to help you thrive and propel your career by means of our industry-leading development programme and our available and unrivalled pool of local and global experts. Our numerous global and local skill pools as well as our diversity are key to our success and continuing innovation.

An innovative place to work

There's never been a more exciting time to work at Shell.

Join us and you'll be adding your talent and imagination to a business with the ambition to shape the future – whether by investing in oil, gas, and renewable energy to meet demand, exploring new ways to store energy, or developing technology that helps the world to use energy more efficiently, everyone at Shell does their part.

An inclusive place to work

To power progress, we need to attract and develop the brightest minds and make sure every voice is heard. Here are just some of the ways we are nurturing an inclusive environment – one where you can express your ideas, extend your skills, and reach your potential.

- We're creating a space where people with disabilities can excel through transparent recruitment process, workplace adjustments and ongoing support in their roles. Feel free to let us know about your circumstances when you apply, and we'll take it from there.

- We're closing the gender gap – whether that's through action on equal pay or by enabling more women to reach senior roles in engineering and technology.
- We're striving to be a pioneer of an inclusive and diverse workplace, promoting equality for employees regardless of sexual orientation or gender identity.
- We consider ourselves a flexible employer and want to support you finding the right balance. We encourage you to discuss this with us in your application.

A rewarding place to work

Combine our creative, collaborative environment and global operations with an impressive range of benefits and joining Shell becomes an inspired career choice.

We're huge advocates for career development. We'll encourage you to try new roles and experience new settings. By pushing people to reach their potential, we frequently help them find skills they never knew they had, or make career moves they never thought possible.