

Supplementary Table S1: Preventive and protective measures against COVID-19 from international agencies						
	WHO [25,34-38]	CDC [44-47]	OSHA [42,43]	ECDC [48-51]	ILO [39-41]	ASHRAE [53-58]
<b>1. Engineering Control</b>						
<b>1.1 Ventilation</b>						
Increase ventilation rate / outdoor air ventilation	<ul style="list-style-type: none"> <li>Add or modify windows and doors to enable cross ventilation</li> <li>Open HVAC systems with maximum outside airflow before and after occupied times</li> </ul>	<ul style="list-style-type: none"> <li>Open windows and doors</li> <li>Eliminate recirculation</li> <li>Run HVAC system with maximum outside airflow before occupied times</li> </ul>	<ul style="list-style-type: none"> <li>Increase ventilation rate</li> <li>Avoid air-recirculation</li> </ul>	<ul style="list-style-type: none"> <li>Open windows and doors</li> <li>Avoid air-recirculation</li> <li>Keep heating, cooling, and humidification setpoints</li> </ul>	<ul style="list-style-type: none"> <li>Open windows and doors</li> <li>Maintain recirculation with outdoor air</li> <li>Properly maintain HVAC systems</li> </ul>	<ul style="list-style-type: none"> <li>Requirements for outdoor air ventilation</li> <li>Eliminate recirculation</li> <li>Properly maintain HVAC systems</li> </ul>
Using stand-alone air cleaner	<ul style="list-style-type: none"> <li>MERV 14 / ISO ePM1 70-80% filter</li> <li>Consider portable HEPA/ Ultraviolet Germicidal Irradiation (UVGI)</li> </ul>	MERV 13 or higher	<ul style="list-style-type: none"> <li>Install high-efficiency air filters</li> </ul>	<ul style="list-style-type: none"> <li>Use stand-alone air-cleaning devices equipped with a HEPA or comparable filter</li> </ul>	<ul style="list-style-type: none"> <li>Install a high-efficiency air filter</li> </ul>	<ul style="list-style-type: none"> <li>Improve central air and other HVAC filtration to MERV-13 or highest level achievable</li> </ul>
Negative pressure ventilation	-	-	<ul style="list-style-type: none"> <li>Apply negative pressure ventilation</li> </ul>	<ul style="list-style-type: none"> <li>Apply negative pressure in specialized rooms</li> </ul>	<ul style="list-style-type: none"> <li>Apply specialized negative pressure ventilation in specific areas</li> </ul>	<ul style="list-style-type: none"> <li>Apply negative pressure in specific areas</li> </ul>
<b>1.2 Distancing &amp; Building Layout</b>						
Maintain distancing	<ul style="list-style-type: none"> <li>At least 1 meter</li> <li>Queue management</li> <li>Install and frequently clean plexiglass barriers</li> </ul>	<ul style="list-style-type: none"> <li>at least 6 feet by partitional control using face covering</li> <li>Close / limit the use of shared spaces</li> </ul>	<ul style="list-style-type: none"> <li>Install physical barriers such as clear plastic sneeze guards</li> </ul>	<ul style="list-style-type: none"> <li>Physical distancing 1-2 meters and barrier installation</li> </ul>	<ul style="list-style-type: none"> <li>2 meters</li> <li>Install physical barriers</li> <li>Limit the capacity of workplaces / common areas</li> </ul>	<ul style="list-style-type: none"> <li>Keep social distancing</li> </ul>
Strict control over external accesses	-	-	<ul style="list-style-type: none"> <li>Install drive-through windows for customer service</li> </ul>	-	<ul style="list-style-type: none"> <li>Install drive-through windows for customer service</li> <li>Organize a one-way system</li> </ul>	-

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<b>1.3 Facilities and equipment</b>						
Employ touchless technology and proper surface materials	- Use sensors, foot pumps, and large handles that are controlled with the lower arm	- Use touchless hand sanitizer dispensers	- Use touchless hand sanitizer dispensers	- Use appropriate devices such as no-touch waste bins	-	-
<b>1.4 Water and sanitary system safety</b>						
Water quality in sanitation and plumbing systems	- Safety drinking water, faeces, and sewage	- Eliminate stagnant or standing waters - Control indoor humidity to not exceed 50% - Prevent mold by control indoor temperature	-	-	-	- Building water systems should be flushed before reopening; Refer to ASHRAE 188-2018
<b>2. Administrative and Organizational Controls</b>						
<b>2.1 Workplace Safety Measures</b>						
Enhance hand hygiene / self-hygiene measures	- Promote hand washing by soap and water or alcohol-based hand sanitizing rub dispensers	- Maintain proper hygiene by hand washing - Encourage employees to bring drinking water from home - Monitor employee health daily	- Promote hand washing resources - Encourage employees to not use other's accessories	- Promote hand hygiene by washing hands with soap and water for 20-40 seconds or with 60-85% alcohol-based hand sanitizers	- Promote frequent hand washing with soap and water or alcohol - Promote use of paper towels - Avoid sharing items in office - Reduce use of cash	- Promote hygiene and sanitation
Promote respiratory etiquette	- Develop face-covering policy	- Cover coughs and Sneezes - Recommend at least two layers of face masks without exhalation valves or vents	- Encourage respiratory etiquette - Provide customers and the public with tissue and trash receptacles	- Cover mouth and nose when coughing and sneezing - Wear face masks in indoors and crowded outdoor settings	- Instruct workers to avoid contact when greeting and encourage respiratory etiquette	- Encourage mask-wearing

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Routine screening	- Thermal screening at workplace	- Conduct daily in-person screening (Temperature and symptoms) - Consider testing for SAR-CoV-2	- Follow state or local guidelines for screening	- Implement screening at points of entry	-	-
Proper waste management	- Clean bins and waste should be placed in strong bags that are completely closed	- Provide no-touch trash cans	- Provide no-touch trash cans	- Provide no-touch trash bins	-	-
<b>2.2 Cleaning and Disinfection</b>						
- Regular cleanings with disinfectants (0.1% / 1000 ppm sodium hypochlorite, or 5% sodium hypochlorite to 50 parts water), especially of high touch surfaces	- Routine cleaning and disinfection with EPA-approved products (List N: Disinfectants) or bleach solution, ultrasonic waves, high intensity ultraviolet radiation, or LED blue light	- Maintain regular housekeeping practices by EPA-approved methods and follow existing OSHA standards - Follow CDC guideline	- Regular cleaning and disinfection with biocidal products regulated by the Biocidal Product Regulation (BPR)	- Increase cleaning of frequently touched surfaces	-	
<b>2.3 Emergency Plan Development</b>						
Emergency plan preparedness	- Prepare standard operating procedures and plans for isolating someone who falls ill without stigmatization or discrimination	- Identify workplace coordinator	- Develop policies and procedures to identify, isolate and report employee sicknesses	- Develop emergency risk communication	- Establish health monitoring policies and response measures for sick or potentially infected workers	-
Suspected or confirmed case measures	- Limit the number of people who come in contact with sick person - Contact local health authorities	- Separate sick employees - Clean facility after suspected or confirmed COVID-19 case - Report number of infections and deaths	-	- Separate sick employees - Ventilate buildings with fresh air for 1 hour and clean with detergent	-	-

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<b>2.4 Business Continuity Guideline</b>						
Transition to remote work	<ul style="list-style-type: none"> <li>- Implement work from home strategy</li> <li>- Implement travel policy</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluate feasibility of accomplishing work by telework</li> </ul>	<ul style="list-style-type: none"> <li>- Minimize contact among workers and clients</li> </ul>	<ul style="list-style-type: none"> <li>- Implement teleworking and flexible working arrangements</li> <li>- Implement travel-related measures</li> </ul>	-	-
Shift working	<ul style="list-style-type: none"> <li>- Stagger working hours</li> <li>- Implement shifts or split-team arrangements</li> </ul>	<ul style="list-style-type: none"> <li>- Stagger employee shifts</li> </ul>	<ul style="list-style-type: none"> <li>- Reduce number of employees at a given time by establishing alternating days or extra shifts</li> </ul>	<ul style="list-style-type: none"> <li>- Implement flexible working schedules or shifts for employees</li> </ul>	<ul style="list-style-type: none"> <li>- Implement staggered and extra shifts or have workers present on alternate days</li> </ul>	-
Encourage employees of self-monitoring	<ul style="list-style-type: none"> <li>- Observe and monitor employees' health</li> </ul>	<ul style="list-style-type: none"> <li>- Encourage sick employees to stay home</li> </ul>	<ul style="list-style-type: none"> <li>- Encourage self-monitoring and staying at home when sick</li> </ul>	<ul style="list-style-type: none"> <li>- Encourage self-monitoring of symptoms</li> </ul>	-	-
Implementing support policy / Concern for vulnerable employees	<ul style="list-style-type: none"> <li>- Perform work risk assessment</li> <li>- Be cognizant of employees' mental health, focusing particular attention on vulnerable and marginalized groups</li> </ul>	<ul style="list-style-type: none"> <li>- Implement flexible sick leave policies and practices</li> <li>- Protect workers with higher risk (elderly or disabled)</li> </ul>	<ul style="list-style-type: none"> <li>- Establish flexible worksite policies</li> <li>- Develop COVID-19 preparedness and response plan</li> </ul>	<ul style="list-style-type: none"> <li>- Risk assessment for various protective method</li> <li>- Assure protection of vulnerable groups</li> </ul>	<ul style="list-style-type: none"> <li>- Risk assessment to determine preventive and control measures</li> <li>- Plan and organize return to work</li> </ul>	<ul style="list-style-type: none"> <li>- Implement strategies to reduce the number of occupants</li> </ul>

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<b>2.5 Education and Communication</b>						
Establish communication policy	-	-	- Implement emergency communication plan	- Communicate risk of COVID-19	-	-
Hygienic measures communication	- Promote handwashing with effective media	- Educate employees to self-protect	- Encourage hand washing by posting signs in restrooms	-	- Provide information about ergonomic risks during remote work	-
COVID-19 information communication	- Provide regular information about the risks of COVID-19 by using official sources	- Consider the level of COVID-19 risk and monitor state and local public health communications	- Provide up to date education and training on COVID-19	-	- Arrange signage with preventive measures - Communicate confirmed cases of COVID-19	-
Employee training/ Feedback response	- Engage workers in providing feedback	- Provide training to employees - Implement safe methods for workers to voice concerns	- Provide training in protective clothing and equipment	-	-	-
<b>3. Personal Protective Equipment (PPE)</b>						
PPE	- Use face masks	- Identify necessary PPE - Provide appropriate PPE to workers	- Provide select PPE to workers exposed to hazards	- Recommend the wearing of face masks and gloves	- Select PPE based on employees' risk of infection while working	- Implement the wearing of PPE