



Equipment Maintenance Checklist

HSB, a Munich Re company, is a technology-driven company built on a foundation of specialty insurance, engineering and technology, all working together to drive innovation in a modern world.

Safety

Equipment should only be inspected, tested and maintained by qualified trained personnel. This document is meant as a guide to what actions should take place; it is not an instruction manual on how to complete the activities.

Operation

Continued safe operation of your equipment depends on regular maintenance and testing of its operating and protective controls. The tests outlined below are designed to determine whether or not the equipment and controls are in good operating condition. The applicable log sheet should be used to guide you and enable you to accurately document results.

Repairs

Should any test indicate that the device being tested or observed is not in good operating condition, it should be repaired immediately. Record and maintain records of repairs or changes so that a complete record will be available for review at any time.

Records

Equipment procedures and maintenance guidelines should be kept in a central location for quick reference when needed. If missing, research manufacturers' websites for the service, operating and parts manuals for the installed equipment models.

Instructions

Read and follow all manufacturers' guidelines and instructions for periodic service, maintenance and inspection of equipment and systems.

Prepare!

You should have emergency shutdown procedures in place for critical equipment. Educate key employees on how to implement those procedures.

Don't wait for equipment to fail!

Equipment/ System	What to look for/What to do	Daily	Weekly	Monthly	Quarterly	Annually	Reference document number
Boilers							
Steam heating high pressure Over - 15psi	Pump and system - Check feedwater and condensate pumps for proper operation and leaky packing. Examine traps, check valves, makeup float valves, expansion or condensate tank and other parts of the system. Low-water fuel cut-off - Drain float chamber while boiler is running. This should interrupt the circuit and stop the burner.	<input type="checkbox"/>					421 422 441
<i>Caution - All steam and water discharges must be piped to a safe place.</i>	Burner operation - If the burner starts with a puff or operates roughly, call your service personnel at once!	<input type="checkbox"/>					
	Safety/relief valve - Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap closed.	<input type="checkbox"/>			<input type="checkbox"/>		
	Water column or gauge glass - Open the drain valve quickly to void a small quantity of water. Water level should return quickly when the drain valve is closed.	<input type="checkbox"/>					
Steam heating low pressure 15psi and under	Pump and system - Check feedwater and condensate pumps for proper operation and leaky packing. Examine traps, check valves, makeup float valves, expansion or condensate tank, and other parts of the system. Low-water fuel cut-off - Drain float chamber while boiler is running. This should interrupt the circuit and stop the burner.	<input type="checkbox"/>					401 423 442
<i>Caution - All steam and water discharges must be piped to a safe place.</i>	Burner operation - If the burner starts with a puff or operates roughly, call your service personnel at once!	<input type="checkbox"/>					
	Safety/relief valve - Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap closed.	<input type="checkbox"/>	<input type="checkbox"/>				
	Water column or gauge glass - Open the drain valve quickly to void a small quantity of water. Water level should return quickly when the drain valve is closed.				<input type="checkbox"/>		
Hot water heating 160psi & 250°F or less	Pump and system - Check circulator pumps for proper operation and leaky packing. Examine check valves, makeup water valves, expansion tank, and other parts of the system. Low-water fuel cut-off (if applicable) - Drain float chamber while boiler is running. This should interrupt the circuit and stop the burner.	<input type="checkbox"/>					401 423 442
<i>Caution - All water discharges must be piped to a safe place.</i>	Burner operation - If the burner starts with a puff or operates roughly, call your service personnel at once!	<input type="checkbox"/>					
	Safety/relief valve - Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap closed.				<input type="checkbox"/>		

Equipment/ System	What to look for/What to do	Daily	Weekly	Monthly	Quarterly	Annually	Reference document number
Air conditioning & refrigeration							
Hermetic <i>Caution - Always de-energize electrical equipment before testing, cleaning or performing maintenance.</i>	<p>Motors – Take insulation resistance readings of motor windings. If less than manufacturer’s or NETA recommendations, do not start the motor. Check for the cause of low resistance.</p> <p>Motor controls – Inspect starter contacts for deterioration, pitting, corrosion, etc.; check terminal connections for tightness; examine overload protection for adequate size and defects; determine that timing devices have correct operating sequence; check mechanical linkage for binding and looseness.</p> <p>Fans – Check for broken, cracked, bent or loose blades or hubs; check shaft and bearings; check belt tension and condition.</p> <p>Filters – Clean or replace all evaporator air filters. If a water-cooled condenser is used, the water side must be kept clean.</p>	<input type="checkbox"/>				<input type="checkbox"/>	406 407 425 445 448
Non-hermetic <i>Caution - Always de-energize electrical equipment before testing, cleaning or performing maintenance.</i>	<p>Motors – Take insulation resistance readings of motor windings. If less than manufacturer’s or NETA recommendations, do not start the motor. Check for the cause of low resistance. Check air ventilation openings on open-type motors for obstruction. Check bearings on open-type motors for proper lubrication.</p> <p>Motor controls – Inspect starter contacts for deterioration, pitting, corrosion, etc.; check terminal connections for tightness; examine overload protection for adequate size and defects; determine that timing devices have correct operating sequence; check mechanical linkage for binding and looseness.</p> <p>Fans – Check for broken, cracked, bent or loose blades or hubs; check shaft and bearings; check belt tension and condition.</p> <p>Filters – Clean or replace all evaporator air filters. If a water-cooled condenser is used, the water side must be kept clean.</p> <p>Moisture indicator – Observe to determine any change in the indicator chemical color or the presence of gas bubbles in the liquid refrigerant. In either case your service technician should be called.</p> <p>Oil sight glass – Observe the glass to establish that sufficient oil is in the compressor crankcase. Oil leaks should be repaired immediately. Any change in normal oil level should be investigated by your service technician.</p> <p>Temperature – In-operation temperature levels for the compressor suction and discharge should be established and recorded. Any unusual change in these temperatures should be brought to the attention of your service technician.</p> <p>Pressure – Operating pressure levels should be established and recorded. Any unusual change in these pressures should be brought to the attention of your service technician.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	406 407 425 445 448

Equipment/ System	What to look for/What to do	Daily	Weekly	Monthly	Quarterly	Annually	Reference document number
Electrical / electronic							
Electrical distribution system	Cool – All vent and air circulation openings must be clear and operational. Electrical loads should be reviewed and corrected to ensure that circuits are properly loaded and balanced.			<input type="checkbox"/>			420 443 446
<i>Caution - Always de-energize electrical equipment before testing, cleaning or performing maintenance.</i>	Clean – Dust and/or dirt accumulations should be removed from the equipment and surroundings. Equipment should be thoroughly cleaned inside and outside. Space in electrical rooms and switchgear enclosures should not be used for storing tools, supplies, or other material. Dry – Precaution should be taken to prevent steam, chemicals, moisture or condensation from entering electrical enclosures. Tight – Clean and tighten all loose parts and replace any that are worn. Equipment should be manually exercised to establish that moving parts do not bind and are free to operate.				<input type="checkbox"/>		447
Electronic & computer equipment	Protection – Computers, associated components of the computer system, and other electronic equipment should be protected by a UL-listed surge suppression device. Verify that vital programs and records are stored remotely and/or in an approved safe located in a low-hazard area, and protected by smoke detection and automatic sprinklers. Heat – All vent and air circulation openings must be free from obstruction. Filters should be kept clean and sound, and the fans operable. Smoke – Ensure that approved detectors are installed and maintained. Verify that the actuation of any detector results in the sounding of alarms and the shutdown of air conditioning equipment. Dry – Precaution should be taken to prevent steam, chemicals, moisture or condensation from entering computers or associated equipment.			<input type="checkbox"/>			420 443
<i>Caution - Always de-energize electrical equipment before testing, cleaning or performing maintenance.</i>				<input type="checkbox"/>			
Mechanical							
Fans, blowers & intake air	Fans & blowers – Check for broken, cracked, bent or loose blades or hubs; check shaft and bearings; check belt tension and condition. Vents & louvers – Inspect for damage and operation. Parts should be free of obstructions or blockage that would prevent proper intake for combustion air. Vents must not be propped open; this may cause excessive cold air and possible freezing of vital systems.				<input type="checkbox"/>		420 443
Deepwell pumps	Motors – Take insulation resistance readings of motor windings. If less than manufacturer’s or NETA recommendations, do not start the motor. Check for the cause of low resistance. Check air ventilation opening on open-type motors for obstruction. Check bearings on open-type motors for proper lubrication. Motor controls – Inspect starter contacts for deterioration, pitting, corrosion, etc.; check terminal connections for tightness; examine overload protection for adequate size and defects; check mechanical linkage for binding and looseness.					<input type="checkbox"/>	425
Misc.							
Water heaters	Relief valve – Pull try-lever to full open position with pressure on the equipment. Release try-lever to allow the valve to snap closed. Caution – All discharges must be piped to a safe place.			<input type="checkbox"/>			423
Food preparation equipment, pressurized cookers, steam kettles & appliances	See “Commercial Cooking Equipment Cleaning & Maintenance procedures” wallchart.						438

Reference documents via HSB.com
Reference documents for all of the above checklist items are available through HSB.com.

National toll-free inspection hotline
Inspection questions, requests for reference documents or status of scheduled inspections can be made directly to HSB’s national Inspection Hotline.

Telephone: 800-333-4677
Fax: 800-292-4083
E-mail:
NSCINSP_hotline@hsb.com

Keep a record of your service contractors for quick reference

Service Contractor	Company	Name	Telephone	Fax
Heating				
Cooling and Refrigeration				
Electrical				
Plumbing				
Utility				
Other				

This article is intended for information purposes only and does not modify or invalidate any of the provisions, exclusions, terms or conditions of your policy. Please refer to your policy for actual terms. All recommendations are general guidelines and are not intended to be exhaustive or complete, nor are they designed to replace information or instructions from the manufacturer of your equipment. Contact your equipment service representative or manufacturer with specific questions.