Personal Protective Equipment - Hand Protection

Background: Gloves are used to protect the hands and sometimes the arms, against chemical, physical and biological hazards. Chemical hazards include corrosive and highly toxic materials able to penetrate directly through the skin into the body. Due to varying conditions, processes or materials, hand protection should be selected for the particular job. Every employer shall provide and every employee shall use the right type of hand protection required for the job. Gloves shall conform to International Standards. Dubai Local Order No. 61 of 1991 requires the provision of protective devices by the employer and the use of this equipment by the employees.

Guidelines:

1. The type of gloves selected shall give adequate protection against corrosive or toxic chemicals, abrasions, high temperatures, cuts, impact, molten metal splash or high electric voltages.

2. For small or delicate work requiring manual dexterity and tactical sensitivity, the thinnest possible material consistent with adequate protection may be selected.

3. Glove surface finish should be selected to provide adequate grip.

4. The gloves length should be based upon the depth to which the arm is likely to be immersed or on the degree of splashing expected. The gauntlet type may be worn over or under the sleeve.

5. Electrical hazards require special natural rubber gloves of high insulation standards with working voltage clearly marked on each glove.

6. Where potential risk of injuries such as cuts, abrasions etc. the general purpose cotton with leather palm gloves should be used.

7. Each person shall be issued gloves individually.

8. Gloves should be regularly inspected for cuts, abrasions, cracks, contamination etc.

9. The sue of gloves is not recommended for work in or near moving parts of machinery viz. drills, gears or rotating shafts.

10. Table -1 covers a number of routine and regularly performed job in industry. Consideration should be given to specialized activities within the workplace operations with due regard to the type of hazard involved.

11. Table -2 gives the chemical resistance of certain types of gloves.

12. **Further References:**

British Standard Specification BS - 1651 Industrial Gloves
BS -697 Rubber gloves for electrical purposes

American Standard ANSI J 6 series on gloves.

EN Standard Specifications.

FURTHER INFORMATION IS AVAILABLE FROM PUBLIC HEALTH AND SAFETY DEPARTMENT
Tel: 2064244 FAX: 2270160

TABLE 1 **GLOVES** **= SUITABLE**	***a***	***b***	***c***	***d***	***e***	***f***	***g***	***h***	***i***	***j***	***k***	***l***	***m***	***n***	***o***	***p***	***q***	***r***	***s***	***t***	***u***
Suitable for -																					
Bitumen spraying																					
Blast cleaning (grit)																					
Boiler/furnace operations																					
Chipping concrete, stone etc.																					
Chipping paint																					
Cleaning - high pressure water jets																					
Crane operations																					
Production operation																					
Electric Welding																					
Erection work - general																					
Erection Work																					
Filling cylinders - LPG																					
Filling drums - chemicals																					
Filling drums - oil products																					
Filling gantries - chemicals																					
Fire - fighting																					
Gas welding /cutting																					
General purposes																					
Grinding (portable)																					
Handling asbestos																					
Handling abrasive materials																					
Handling bags																					
Handling /blending chemicals																					
Handling cryogenic materials																					
Handling drums																					
Handling hot materials																					
Handling /blending lub. oils																					
Handling scrap metal																					

a.	***Leather, flame retardant, to 400 C***	***b.***	***Cotton, flame retardant***
c.	***Cotton, with chrome leather palm***	***d.***	***Chrome leather, wrist***
e.	***Chrome leather, gauntlet***	***f.***	***Rubber, gauntlet (up to 650V)***
g.	***PVC (plastocgrame) lightweight, 300 mm***	***h.***	***PVC white, standard weight, 400 mm***
i.	***PVC standard weight, 270 mm***	***j.***	***PVC standard weight , 400 mm***
k.	***PVC heavy duty, ribbed***	***l.***	***Polyethylene, throw-away type***
m.	***Neoprene, medium weight, 400 mm***	***n.***	***Mitt, steel - laced, 270 mm***
o.	***PVC - special insulated/plasticized***	***p.***	***Leather - foamed fabric lined***
q.		***r.***	***Mitts, aluminized asbestos***
s.		***t.***	

TABLE 1 (Continued) **GLOVES** **= SUITABLE**	***a***	***b***	***c***	***d***	***e***	***f***	***g***	***h***	***i***	***j***	***k***	***l***	***m***	***n***	***o***	***p***	***q***	***r***	***s***	***t***	***u***
Suitable for -																					
Handling tins																					
Handling tinplate																					
Handling wet/greasy materials																					
Heavy manual work																					
Laboratories - general																					
Metal spraying																					
Paint spraying																					
Radiation heat																					
Spillages - chemicals																					
Spillage - oil																					
Steam cleaning																					
Tank / Vessel cleaning																					
- Chemcials																					
- Leaded gasoline																					
- Other products / crude																					
- Tank dipping / sampling																					
Tin factories																					

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o.	***PVC - special insulated/plasticized***	***p.***	***Leather - foamed fabric lined***
q.		***r.***	***Mitts, aluminized asbestos***
s.		***t.***	
u.		***v.***	

TABLE 2 **GLOVES FOR HANDLING CHEMICALS** **(Resistance ratings of various materials)**	***a***	***b***	***c***	***d***	***e***	***f***	***g***	***h***	***i***	***j***	***k***	***l***	***m***	***n***	***o***	***p***	***q***	***r***	***s***	***t***	***u***
Suitable for -																					
Inorganic chemicals																					
General Chemicals (wet or dry)	A	A	A								A	A	A								
Strong acids/alkalies	B	A	B								B	A	B								
Water	A	A	A								A	A	A								
Organic Chemicals																					
Acids	A		A								A	A	A								
Alcohols	A		A								A	A	A								
Aldehydes	B		A								C	A	B								
Aliphatic hydrocarbons (most)	A	A	A								C	C	A								
Aromatic hydrocarbons	C	A	C								C	C	C								
Amines	A		B								B		A								
Animal /vegetable oils	A		A								C	A	A								
Esters	C		C								C	B	B								
Ethers	C		B								C	B	B								
Halogenated hydrocarbons	C		C								C	B	B								
Ketones	C		B								C	A	B								
Liquid Organophosphorus pesticides (not for concentrates/formulations)	B	A	A																		
Mercaptans	B										C	C	C								
Nitro hydrocarbons	C		B								A	A	C								
A = Good																					
B = Fair																					
C = poor																					

a.	***Polyvinyl chloride***	***b.***	***Polyethylene***
c.	***Neoprene***	***d.***	
e.		***f.***	
g.		***h.***	
i.	***Comparative ratings of other mat.***	***j.***	***Not included***
k.	***Natural Rubber***	***l.***	***Butyl rubber***
m.	***Mitrile***	***n.***	
o.		***p.***	
q.		***r.***	
s.		***t.***	
u.		***v.***	