

## Corrosion testing

Type of materials tested	Type of tests performed	Report
Corrosion resistance of stainless steel surgical instruments	Copper Sulphate Test as per IS 7531: 1990 (Reaffirmed 2001)	Conformance to the corrosion resistance requirements of IS 7531: 1990 (Reaffirmed 2001)
	Boiling Water Test as per IS 7531: 1990 (Reaffirmed 2001)	
	Autoclaving Test as per IS 7531: 1990 (Reaffirmed 2001)	
	Potential-time measurement	
	Linear polarization measurement	
	Potentiodynamic polarization	
	Electrochemical impedance spectroscopy (EIS)	

Quality of passivation of stainless steel articles, industrial equipments and components including pipelines	Visual inspection for the presence of any untreated patches and flaky and uneven deposits	Conformance to the passivation quality requirements of IS 10117:2000 (Reaffirmed 2006)
	Copper Sulphate Test as per IS 10117:2000 (Reaffirmed 2006)	
	Boiling Water Test as per IS 10117:2000 (Reaffirmed 2006)	
	Ferroxyl test as per IS 10117:2000 (Reaffirmed 2006)	
	High humidity test as per IS 10117:2000 (Reaffirmed 2006)	
	Pitting tendency as per IS 10117:2000 (Reaffirmed 2006)	
	Potential-time measurement as per IS 10117:2000 (Reaffirmed 2006)	
	Linear polarization measurement	
	Potentiodynamic polarization	
	Electrochemical impedance spectroscopy (EIS)	

Quality of chemical dip passivation coating on wrought or cast stainless steels	Visual inspection for the presence of a smooth, clear surface with no etching or frosting as per IS 13177:1991 (Reaffirmed 2006)	Conformance to the passivation quality requirements of IS 13177:1991 (Reaffirmed 2006)
	Salt spray test as per IS 9844:1981 specified in IS 13177:1991 (Reaffirmed 2006)	
	Water immersion test as per IS 13177:1991 (Reaffirmed 2006)	
	Humidity test as per IS 13177:1991 (Reaffirmed 2006)	
	Copper sulphate test as per IS 13177:1991 (Reaffirmed 2006)	
	Potassium Ferricyanide - Nitric Acid Test as per IS 13177:1991 (Reaffirmed 2006)	
Chemical resistance of the	Immersion test in distilled water	Conformance to the chemical resistance of the fusion bonded

fusion bonded epoxy coating which is applied on steel reinforcing bars		epoxy coating as per IS 13620:1993 (Reaffirmed 2004)
	Immersion test in 3 M CaCl <sub>2</sub>	
	Immersion test in 3 M NaOH	
	Immersion test in saturated Ca (OH) <sub>2</sub> solution	
Resistance of the fusion bonded epoxy coating which is applied on steel reinforcing bars to applied voltage	Accelerated electrochemical test	Conformance of the fusion bonded epoxy coating to the resistance of applied voltage as per IS 13620:1993 (Reaffirmed 2004)
Abrasion resistance of the fusion bonded epoxy coating which is applied on steel reinforcing bars	Taber abrasion test using CS 10 wheels with a load of 1 Kg	Conformance of the fusion bonded epoxy coating to the abrasion resistance as per IS 13620:1993 (Reaffirmed 2004)

Non-stick plastics coated domestic cooking utensils	Salt water corrosion test as per clause 7.3 of IS 9370:1981 (Reaffirmed 2006)	Conformance to the salt water corrosion resistance of non-stick plastics coated domestic cooking utensils