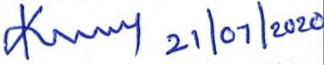
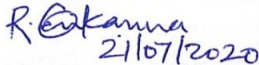


		MANUFACTURER'S NAME & ADDRESS: BHEL (BAP) - Ranipet Approved Suppliers		MANUFACTURING QUALITY PLAN				MQP NO: AAC:PLU REV NO: 01 DATE: 21/07/2020 PAGE: 1 OF 2					
												PRODUCT: Aliphatic Acrylic Polyurethane Full Gloss Enamel (Two Pack) Paint to IS 13213 : 2018	
				SUB-SYSTEM : ---									
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS	
1	2	3	4	5	6	7	8	9	D**	M	C	N	11

1.0 RAW MATERIALS:													
1.1	Acrylic polyol, Pigments, solvents, resins & additives, aliphatic polyisocyanate	Composition	M	Review	IS 13213	IS 13213	IS 13213 & BHEL PO	TC	-	V	-	-	
2.0 INPROCESS CONTROLS:													
2.1	Measurement of Ingredients	Weight / Volume	A	Measure	IS 13213	Supplier's Procedure and IS 13213		Log	-	P	-	-	
2.2	Dispersion	Granulating Pigments	M	Visual	IS 13213	Supplier's Procedure and IS 13213		Log	-	P	-	-	
2.3	Let-down & Mixing	Proper mixing of resins, solvents and additives	M	Visual	IS 13213	Supplier's Procedure and IS 13213		Log	-	P	-	-	
3.0 FINAL INSPECTION & TESTING (Refer Notes 1, 2 & 3):													
3.1	Finished Paint	Consistency	M	Visual	IS 13213 / IS 101	IS 13213	IS 13213	TC	√	P	W	-	
3.2		Mass (kg/10 litre), min	M	Measure		IS 13213	IS 13213	TC	√	P	W	-	
3.3		Drying Time (h), max. a) Surface Dry b) Hard Dry c) Hard Dry, 70°C	A	Measure		IS 13213	IS 13213	TC	√	P	W*	-	*W for Surface Dry. Others, V.
3.4		Finish	A	Visual		IS 13213 & BHEL PO	IS 13213 & BHEL PO	TC	√	P	W	-	
3.5		Gloss	A	Measure		IS 13213 & BHEL PO	IS 13213 & BHEL PO	TC	√	P	W	-	
3.6		Colour	A	Visual		IS 13213 & BHEL PO	IS 13213 & BHEL PO	TC	√	P	W	-	
3.7		Flexibility & Adhesion a) Scratch Hardness b) Bend Test	A	Visual		IS 13213	IS 13213	TC	√	P	V	-	
3.8		Flash Point	A	Measure		IS 13213	IS 13213	TC	√	P	W	-	
3.9		Volume solids percent, min \$	A	Measure		IS 13213 & BHEL PO	IS 13213 & BHEL PO	TC	√	P	W	-	\$ To be tested at NABL accredited lab
3.10		DFT (μ) per coat	A	Measure		IS 13213 & BHEL PO	IS 13213 & BHEL PO	TC	√	P	W	-	

 21/07/2020		 21/07/2020		LEGEND: * RECORDS IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER, C: BHEL / BHEL AIA, N: CUSTOMER; P: PERFORM, W: WITNESS, V: VERIFICATION; CLASS: A - CRITICAL; B - MAJOR; C - MINOR; MTC- MILL /MANUFACTURER'S TEST CERTIFICATE; IR- INSPECTION REPORT.
PREPARED BY	REVIEWED & APPROVED BY			
K.S. GOPAKUMAR, DE/QA	VENKANNA RUPANI, DM/QA			
SIGNATURE & SEAL				

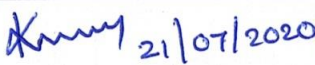
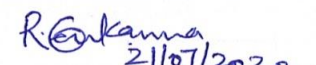
		MANUFACTURER'S NAME & ADDRESS: BHEL (BAP) - Ranipet Approved Suppliers		MANUFACTURING QUALITY PLAN				MQP NO: AAC:PLU REV NO: 01				
				PRODUCT: Aliphatic Acrylic Polyurethane Full Gloss Enamel (Two Pack) Paint to IS 13213 : 2018				DATE: 21/07/2020 PAGE: 2 OF 2				
				SUB-SYSTEM : ---								
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
1	2	3	4	5	6	7	8	9	D**	**	10	11
3.11	Finished Paint	Lead Content	M	Measure	IS 13213 / IS 101	IS 13213	IS 13213	TC	√	P	V	-
3.12		Fineness of grind, max	M	Measure				TC	√	P	V	-
3.13		Keeping properties - Not less than one year from date of manufacturing	A	Visual & Measure				TC	√	P	V	-
3.14		Pot Life (h), min	M	Measure				TC	√	P	V	-
3.15		Accelerated tests: a) Resistance to acid b) Resistance to alkali c) Resistance to oil d) Resistance to solvents	M	Visual & Measure				TC	√	P	V	-
3.16		Durability Test a) Out-door exposure b) Accelerated weathering test c) Colour change d) Gloss retention, Min e) Corrosion	M	Visual & Measure				TC	√	P	V	-
4.0 MARKING, PACKING & CERTIFICATION:												
4.1	Identification & Packing	Stenciling & Packing	M	Visual	IS 13213	IS 13213	IS 13213 & BHEL PO	TC	√	P	V	-
4.2	Certification	Compliance	A	Review	IS 13213	IS 13213	IS 13213 & BHEL PO	TC	√	P	V	-

Record of Revisions

Rev No	Date	Clauses revised	Description of Revision
00	12/02/2018	--	Original Issue.
01	21/07/2020	All	QP No changed from QP:PU to AAC:PLU. MQP Completely reorganized and revised.

Notes:

1. Latest editions / versions of the referred standards shall be used.
2. Sample selection for testing to be done in the presence of BHEL / BHEL AIA.
3. Apart from above indicated tests, any other requirement(s) specified in BHEL PO shall be complied with by the supplier.

 21/07/2020		 21/07/2020		LEGEND: * RECORDS IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER, C: BHEL / BHEL AIA, N: CUSTOMER, P: PERFORM, W: WITNESS, V: VERIFICATION; CLASS: A - CRITICAL; B - MAJOR; C - MINOR; MTC: MILL /MANUFACTURER'S TEST CERTIFICATE; IR- INSPECTION REPORT.
PREPARED BY K.S. GOPAKUMAR, DE/QA		REVIEWED & APPROVED BY VENKANNA RUPANI, DM/QA		
SIGNATURE & SEAL				