



DIRECTORATE GENERAL, CRPF
EAST BLOCK-7, SECTOR-1, R.K PURAM, NEW DELHI-66
e-mail : digeqpt@crpf.gov.in Tele No. 011-26109038



No. B.V-7/2025-26-C-(3D Printer)-QR CELL

Dated, the 07 July'2026

To

1. The DsG: AR, BSF, CISF, ITBP, NSG, SSB and BPR&D
2. Director, DCPW

Subject: QRs/TDs OF "3D PRINTER" REGARDING.

I am directed to refer to the subject mentioned above and to say that the QRs/TDs of "3D Printer" have been approved by the DG CRPF after due deliberations and as per recommendations of Sub-Group of Technical Experts from CAPFs and experts from DCPW & BPR&D.

This is for favour of information and further needful please.

Encl:-As above

(Megh Raj)

DIG (Equipment)
Communication & IT Branch
Directorate General C R P F

No. B.V-7/2025-26-C-(3D Printer)-QR CELL

Dated, the 07 July'2026

Copy to:-

1. Mr. Deepak Kumar, Technical Director, 34016, 4th Floor, Kartavya Bhawan 3, Janpath Road, MHA, New Delhi-110001 (e-mail ID: deepakg@gov.in) with request to upload the QRs/TDs of "3D Printer" on MHA website please.

Encl:-As above

(Megh Raj)

DIG (Equipment)
Communication & IT Branch
Directorate General C R P F

QRs/TDs OF 3D PRINTER

S.N	Description	Specifications / Parameters	Trial Directives
1.	Description	<p>The quoted 3D printer should be capable of industrial-scale printing of incredibly strong parts with precision sensing systems.</p> <p>(a) The quoted printer should combine the benefits of continuous fibre reinforcement high quality surface finish.</p> <p>(b) The quoted printer should combine the benefits of Short fibre reinforcement for parts as strong as metal with high quality surface finish.</p> <p>(a) Or (b) as per user requirement</p>	Board will check physically
2.	Printing Technology	FDM	Board will check physically
3.	Build volume	Minimum 300 × 300 × 300 mm or as per User Requirement	Board will check physically
4.	Nozzles/Extruder	<p>a. Single/Multi or Idex - As per User Requirement</p> <p>b. If Multi/Idex- The Print Head can print 2 parts at a time via duplicate or mirror mode with a feature of separate parking of head</p> <p>c. The nozzles should be Interchangeable and direct extruder</p>	Board will check physically
5.	Nozzles Size	0.4 mm (standard); interchangeable 0.6 mm / 0.8 mm or as per User Requirement	Board will check physically and Firm will submit OEM Certificate
6.	Filament compatibility	<p>a. PLA, PETG, ABS, ASA, Nylon, Nylon + CF, PET-CF, flexible TPU (with proper extruder)</p> <p>b. If the printer is Continuous fiber the filaments should be Carbon/ Glass/ Kevlar</p>	Board will check physically and Firm will submit OEM Certificate
7.	Nozzles Material	Hardened steel with high flow or According to the Filament.	Board will check practically and firm will provide OEM Certificate
8.	Bed levelling	Automatic mesh levelling	Board will check physically
9.	Bed Material	PEI magnetic Spring Steel Plate or strong adhesion easy removal (flex plate) works with most materials durable and reusable.	Board will check physically and Firm will submit OEM Certificate

S.N	Description	Specifications / Parameters	Trial Directives
10.	Hot end Temperature	Min 300°C or more or as per Filament Material	Firm will submit OEM Certificate
11.	Printer Connectivity	USB/SD CARD/Wi-Fi/LAN or as per user requirement	Board will check physically
12.	Remote Monitoring (Optional)	Via Camera (Inbuilt) connected to a Monitoring Device	Board will check physically
13.	Power Recovery	Print resume after power loss	Board will check physically and Firm will submit OEM Certificate
14.	Filament Detection	Run-out and jam sensor	Board will check physically
15.	Print Speed	50-250 mm/s (As per User Requirement)	Board will check physically and Firm will submit OEM Certificate
16.	Software Features	<p>Include slicing Software and interface software should have real time print tracking, file queuing and live camera view.</p> <ul style="list-style-type: none"> • Supporting file format STL, OBJ, 3MF, G-Code & Other standard file formats • Industry 4.0 compliant (featuring IoT connectivity, real-time monitoring, predictive maintenance, and data integration capabilities for smart manufacturing and maintenance operations.) • Windows/Mac • Custom printer operating system • Provision for enable/disable SSH connection • slicing and printing 	Board will check physically and Firm will submit OEM Certificate
17.	Other key Features of 3D printer	<ul style="list-style-type: none"> -Pause/Resume functionality - Kinematically coupled build platform - Draft-blocking enclosure - Touchscreen interface - Reusable print bed (rated for 1000+ prints) - Capability for embedding metal inserts during printing 	Board will check physically and Firm will submit OEM certificate

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S.N	Description	Specifications / Parameters	Trial Directives
18.	Print Quality Control	Automatic homing and calibration after defined layers; real-time error detection with remote user alerts and print cancellation option to prevent material wastage.	Board will check physically and Firm will submit OEM certificate

Vikas

W/O Vikas Godara
Assam Rifles



AC-II Lalit Kumar
NSG



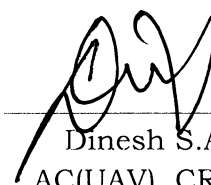
Insp/RM S.K. Sharma
BSF



Satish Kumar Mahla
AC (Comn), SSB



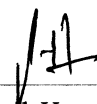
S.S. Thakur
AC, CISF



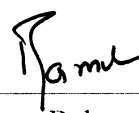
Dinesh S.A
AC(UAV), CRPF



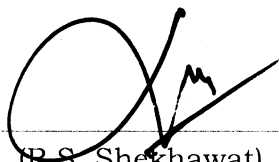
Ujjwal Kumar Singh
AC(QR), CRPF



Sunil Kumar
AD, DCPW



Ram Pal
DC, ITBP



(R.S. Shekhawat)
DIG (Comn), CRPF



(Megh Raj)
DIG (Eqpt), CRPF



Rajesh Kumar
IG (Comn & IT), CRPF



(Zaki Ahmad, IPS)
SDG (ADM), CRPF

✓
Approved/ Not Approved



(Gyanendra Pratap Singh, IPS)
DG, CRPF