

**Assessment of Critical Materials  
Required for Electrification of  
100% BG Routes of IR**

# Requirement of Materials for RE Works- Steel

(Estimated rate of RE: @ 6000 RKM pa)

Items	Basis of Requirement		2020-21	2021-22	2022-23	2023-24	TOTAL	
B-Series Masts	7	MT/TKM	60,077	51,460	50,938	48,646	<b>2,11,121</b>	MT
RSJ (8x6) Masts	0.5	MT/TKM	4,291	3,676	3,638	3475	<b>15,080</b>	MT
ONR Portal Structures	2	MT/TKM	17,165	14,703	14,554	13899	<b>60,320</b>	MT
SPL Structures	0.5	MT/TKM	4,291	3,676	3,638	3475	<b>15,080</b>	MT
Small Parts Steel (SPS)	1	MT/TKM	8,582	7,351	7,277	6949	<b>30,160</b>	MT
Total Requirement Steel:			<b>94,406</b>	<b>80,866</b>	<b>80,045</b>	<b>76,444</b>	<b>3,31,761</b>	MT

# Requirement of Materials for RE Works- OHE Fittings

(Estimated rate of RE: @ 6000 RKM pa)

Items	Basis of Requirement		2020-21	2021-22	2022-23	2023-24	TOTAL	
OHE fittings (Al-Bronze)	79	Nos/TKM	6,78,008	5,80,764	5,74,868	4,99,177	<b>23,32,815</b>	Nos
OHE fittings (Copper)	79	Nos/TKM	6,78,008	5,80,764	5,74,868	4,99,177	<b>23,32,815</b>	Nos
OHE fittings (MCI/SGCI)	29	Nos/TKM	2,48,889	2,13,192	2,11,027	1,83,242	<b>8,56,350</b>	Nos
OHE fittings (Alloy)	25	Nos/TKM	2,14,559	1,83,786	1,81,920	1,57,967	<b>7,38,233</b>	Nos
OHE fittings (Forged Steel)	75	Nos/TKM	6,43,678	5,51,358	5,45,760	4,73,902	<b>22,14,698</b>	Nos
OHE fittings (Steel Galvanised)	32	Nos/TKM	2,74,636	2,35,246	2,32,858	2,02,198	<b>9,44,938</b>	Nos
Cast Iron Counter Weight	1.32	MT/TKM	11,329	9,704	9,605	8,341	<b>38,979</b>	MT
Fasteners SS	0.035	MT/TKM	300	257	255	221	<b>1,034</b>	MT
Fasteners GI	0.3	MT/TKM	2,575	2,205	2,183	1,896	<b>8,859</b>	MT

# Requirement of Materials for RE Works- Tubes & Insulators

(Estimated rate of RE: @ 6000 RKM pa)

Items	Basis of Requirement		2020-21	2021-22	2022-23	2023-24	TOTAL	
Bracket tube 29.9/38 mm dia	32.50	m/TKM	2,78,927	2,38,922	2,36,496	2,05,357	<b>9,59,703</b>	m
Bracket tube 40.9/49 mm dia	42.50	m/TKM	3,64,751	3,12,436	3,09,264	2,68,544	<b>12,54,996</b>	m
Register & stay tube 28.4/33.7 mm	90.00	m/TKM	7,72,414	6,61,630	65,4912	5,68,682	<b>26,57,638</b>	m
Regulating equipment	2.15	Nos/TKM	18,452	15,806	15,645	13,585	<b>63,488</b>	Nos
Section insulators	0.35	Nos/TKM	3,004	2,573	2,547	2,212	<b>10,335</b>	Nos
Bracket insulators	22.00	Nos/TKM	1,88,812	1,61,732	1,60,090	1,39,011	<b>6,49,645</b>	Nos
stay insulators	22.00	Nos/TKM	1,88,812	1,61,732	1,60,090	1,39,011	<b>6,49,645</b>	Nos
9-T insulators	8.00	Nos/TKM	68,659	58,812	58,214	50,550	<b>2,36,234</b>	Nos
Section insulators	0.70	Nos/TKM	6,008	5,146	5,094	4,423	<b>20,671</b>	Nos
Post insulators	2.80	Nos/TKM	24,031	20,584	20,375	17,692	<b>82,682</b>	Nos
AT	0.30	Nos/TKM	2,575	2,205	2,183	1,896	<b>8,859</b>	Nos <sub>4</sub>

# Requirement of Materials for RE Works- TFRs & Conductors

(Estimated rate of RE: @ 6000 RKM pa)

Items	Basis of Requirement		2020-21	2021-22	2022-23	2023-24	TOTAL	
Transformer 220/132/110/66kV (RDSO)	2	Nos/TSS	120	120	120	104	<b>464</b>	Nos
PTFE	0.04	Nos/TKM	343	294	291	253	<b>1,181</b>	Nos
Copper contact	1.3	MT/TKM	11,157	9,557	9,460	8,214	<b>38,388</b>	MT
Catenary Contact	0.7	MT/TKM	6,008	5,146	5,094	4,423	<b>20,671</b>	MT
150 mm <sup>2</sup> cadmium copper span wire	0.07	MT/TKM	604	518	512	445	<b>2,079</b>	MT
105 mm <sup>2</sup> annealed jumper wire	0.014	MT/TKM	118	101	100	87	<b>408</b>	MT
50 mm <sup>2</sup>	0.007	MT/TKM	63	54	53	46	<b>216</b>	MT
7 mm dia	0.018	MT/TKM	155	133	132	114	<b>534</b>	MT
5 mm dia	0.049	MT/TKM	421	361	357	310	<b>1,450</b>	MT