



# אין בט גברכי כ גבוי 0 סדב בצ בהדכ איצות

03.10.2021

ج ج تو تر مرتد مرتد مرتد مرتد : 57-T/IU/2021/32

ر، د ۵، د ۲ د ۲ برم هری د ۲ ور ۲ مر م د و، برور برمد ۲

	4000 (CC+C 04500 (CA460 4	1
57-T/IU/2021/32	ב 20 - 20 ב 30 ה קהפית ייתייתם זק י	1.1
עניין 2021 2021 03	و ی ۵ ۲ ۵ پر بربوسر می تورنر	1.2
כ ארת הפית ב בש אינ גע גע ב א גע אר איני		
ג 6 ג ג ג 3 6 0 0 ג ג ג 6 0 0 ג 1 שאר אר אר ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג		
גנ דבי ה ה 10 ג ה דב דב ה דב ה 20 ג ה גו גם ה ה 10 ה האינת דב דב ה- א ה א ה א ה א ה א ה ה א ה ה א ה ה א ה ה א ה	ر رہ رہ ویسور رہ می	1.3
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	יכן קיכנט ב 25 ספכות הבפטימית הייינק סיכ	2
	ענים ב ענט עלים נים ספרת מתכ ספרית צית סכים: *	
بَرْجِ صُفْظَ بِرِ مُرْجُدُةُ تُدْثَرُ (تُدْثَرُ سَرُسُرُهُ بِد: 2014/18) كَ حَرْسُ سُرُ	ספית הצפתפצהפיתי פתצית שפית הצפתפצהפיתי פתצית	2.1
דת הדת בדת במתפיב פות ביציית בישים דת הדת בדת במתפיב פות ביציית בישיות בי	פוני איז איז איז איז איז איז איז איז איז אי	
	גם גבע גם 200 גער גער די גבע טפע מזמדיג דייקר טוקר דייקרידיגר ט	
נים איני בארט בארט בארט בארט בארט בארט בארט בארט	דם בבבי בי הי	
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؆ؙڹؙڒؖؿٞڒؙڒؙڐ ڡؘڋ؆ۊ۠؞ ڔؘؿڔؚڔڋ؞ڋ؉ؙڛڔڔۿ؉ۛ ڡۅؘۺۜڒ ڒٮڗڒڋۏؾڒ ۼڒڡۣ؊ڡۼۑڕ؆ۼڒ ڋۣؾڒۿۄؽ؆؆ڕ ڔڎڔۊٚ ڎؚۊٚؿڕ؆ٙ؆ؚ ٭ د یہ یہ ی		
توسر قسر آرد و. - ۱۰ د ۲۰ ۱ د ۱۰ ۵ د د ۹ د ۱۰ ۴ د ۲۰ ۵ د د ۹۵ ۱ د ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰ ۲۰		
ע דכר ריפיציע מדי איציע סייציע כריפר פר ריפיצר י'י'	טיפית מעמצו איז איישאר א א	
	ט כ כ כ י גם 🗙 כ כ ם היי זע אי	
م مؤسر دررد در در دور دور دور دور دور در در در در دور و مرم مرد دور و مرم مرد دور و مرم مرد دور و مرم مرد دور و م موسر رمرردوم مرم مرم مرد مرد مرد مرد مرد در دور و مرم مرد مرد دور و مرم مرد مرد مرد مرد مرد مرد مرد مرد مرد		
رسر مرد دوری 11:00 ، مرس مردمو دومومرس و مرمره مردمو،		
مر موبر در مربر مربر مربر مربر مربر مربر مربر		2.3
saudu	<u>تاریخ</u> ین <u>الم</u>	
مرجة عند 1/IU/2021/32 مرجة عند 57-T/IU/2021/32		
د د د تا مروسر/ وبرگریزی مریس:		
ער כי מקומקים זמ:	בטי גמיםי גמי לי בצית במסגב יתבה בית	

،،، مربع 1 - مربع در بر مربع مربع مربع ، مربع در مرد سوی مقوم 1 - موسر رسررغ وتحریح مونی قرق در مربع

א א צע הבבאב הבא 0 ספר בא באפר 50 ממדע ש

، ۵ ، ۵۰ ۵ دورو دع مرسو: م ر	
مرم: مرد مرم مرد مرد مرد مرد مرد مرد مرد مرد	
مرسط ما 2021 گر مربر مرور دورو 23:59 م مربور م گرفت مروسر موند.	
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	0.0
תם תם כם ג כם אין ספות: זכו ותסות בשיצית הבתית י	2.0
محمور مدين عن 100 مرسط عام 2021 مرسور مر مرفر مدى 13:30	
۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵، ۵	
תם תם כם כם הב כם אינו ספות: אנרות מית ב כש תיג רבת א	
مُعَرِدُه وَع: 12 مُسْطَحَعْتُ 2021 وَ مُسْرَدَيْرَ فَرَوْرَدُ 13:00 وَ مُ	
יר ביז בים ביל ביל ביל אין	2.7
י 00 ×01 יי ריי ריי ריי ריי ריי ריי ריי ג'	
גר אין גער	
דר דער אין	
ים נסארכבא ביגובם סקית הצמת מעקצי התיקית א	3
שירים גירים גילים הים הסלי גילים איניים א שירית התרע גיליסית שירית סרות איניים איניים שיר הרא בקצר שתכיית איניים איניים איניים איניים איניים איניים איניי	
۵/ ۵/۵۰ ۵/۵ ۵/۵ ۵/۵۰ ۵/۵۰ ۵/۵۰ ۵/۵۰ ۵/۵	3.1
د موسر شرم، مربع مرضی د مرسر ما بر وسر و بر مرسر و. 	
שַ הריים שַ בֹרְג'עֹת בָּד' בָּצָבָבָּבְעֹת ה'ב לעלע פֿען שַ הריים שַ אַכָּר בְכַעֹרָ בָּעָד בְרָפָא אַ בָרָא אָ שַ הריים שַ הי בקבר בקבר הבנ פֿעש הערציע הערציע הערפע ביין איין באיין איין באריים בקבר אבן איין איין איין איין א	3.2
ر ۵۰ د ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵ ۲۵	
אר האר האר אין	3.3
ב ב ۵ ۵ ۵ ۵ ۵ העדי ת פית ה פי	
ג דו דו דו דו דו דו דו אין	3.4
د، ده، د ۱۰ د ۱۰ ۵ میرد مرسر سر مرسر مرد ۲۰۰۶ میردش د در در ۵ میرد سر در ۵ میرد ۵ میرد ۵ میرد ۵ مرورد موجود وردومی روم میرد مرسر سرسر موسر مرد ۲۰۰۶ میردش در در دهر دس 90 مرورد ده در در ۲۰۰۰	3.5
איני ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג	
אייייי איייייייייייייייייייייייייייייי	3.6

הם דורט דורט ד ד גדוםטט הדרוט ד דוורסטט דם דם האורי דיין דם דם ה ספית התועדי ד ד גדוםטט הדרוטי דוורסטט דם האינוסית ספית סר ע	
יר דענענער גענער גענע אין אין גענער גע גענער גענער גענע	
ד הידאירם אירודים 00 היש הודעים 100 איי 10 דר 2000 ג'י הודע הודעים איר הודעים אייר איין איינים אייר איין איין א איין איין איין איין איין אי	3.7
דיר אין איר אין איר אין	
די אין דין ג'ן אין ג'ט א' 6 דידי 6 ג'ר אין 6 ג'ר אין 6 ג'ר ג'ן ג'ר ג'ן 6 ג'ר ג'ן ג'ר ג'ן ג'ר ג'ן ג'ן ג'ן ג'ן ג' גערע דא געיצע ג'ר געיצע ג'ר געיצע ג'ר געיצע ג'ר ג'ן ג'ן ג'ין ג'ין ג'ין ג'ין ג'ין ג'ין ג	
גם בגרוא גואג אואג בגם גום גרם גם אואט בגם או גער ארג און גער אוגע גערע גערע גערע גערע גערע גערע גערע ג	
ים כם) י כי גיאי י ים כיי כיסייא איזיכו כיי יא ים סום ככים מרתפות כשתיג הבמצ פמרה ותפים כפרש גיז הבמיכם ותפים פותגיגם ההפיי בזכה י	
×0 יאט ידי אידי אידי ידי ידי געער איז דער אידי אידי אידי גער	3.8
יג בוס ברגוני בסי גורים מסגיג בב שברי בי גורים היים ייס בציע תודבת הידעיצ החש המינת הידעב השיד הייס היידעי וותצר ה שתיית שותצ י	
נ ב גע ב גע ע אפית הפי	
הית בניים גער ברוגע פות בא איז איז איז איז גער איז איז גער איז איז איז איז איז גער איז גער	
ים גול גול גולם גם דבר גולים עם גע גע די די היים גם גם גם גוגים גם גולי די	
ג א א א א ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג	3.9
ן גווין ברווי נוטע 200 הבדעוס אבברס עבסטט גווין גווין הדק הצמקי הערע שתבשיר בפית בהתבפה →צעות שיתותפהש היונקהבה הצדק י	
ק ב ב ב אין ב א ד ב איז ד ב אין ב אין	
ים דם הסיים ברגום היים ברגום היים ביו גובו ברגו הייבו שיציית הייתייתיפית ה-90 היצהה ביית שיית באיק באפר היים היצה שיצבה הית הציק באיקם ב שיציית הייתייתיפית ה-90 הייקה איקר באיקר	
יז געט 0 בעט געיד געיר געיר געיר גע געע געיר געיר געיר גע	3.10
בדים ביא גם ג' ג' אם ג' ד' ג' ד' ד' ג'	
גם באורים ג'ון ג'ון ג'ון ג'ון בארסיב באורין שוט 10 ג'ום ג'ום באום ב שתיית תית ג'ית מיתו איתו איק באורים בג'ו פאורים איתו איק באו שתיבאי איק באו איק באו איק באורי איק ביות באיק ביו ע	
יסים בבבים היו ה' ה' ה' בי ה' בי שתיניסה הצוכרי הדש ה' בי שתיני הידות אינגו אינגו בי שתיני הידות ה' שי	3.11
איל אבר באיר באיר 20 אין 20 אין אין אין אין 20 אין אין 20 אין געפסע אין אינעס געפע עיציע איצע איצע אינע געע געפע געפע געפע אין אין גער אין גער גער אין גער גער גער גער גער גע א	
געט ד ד ג ג ג א ג א ג א ג א ג ג ג ג ג ג ג ג	4
נים ביגום ב 2002 00 בים נים 200 ספות נתנת את עותב נית פרות פירות את התפרי: ס	
1. ويورون مرور مرون مرون مرون مرور و (ع فرون (ع)	
2. نائع منهم (و فرو د شر 90 فرو د فرو و مر شرس و شرم و فرو و م مر و سرو سرو ا	
د ر ۵ . د . ووسار د د ۵ ووسره و) د	
3. مسروس / محصر مدمون / عرف عن مسمد مع / مرد مو ومروس ومرفع مرد مرع مع مرد	4.1
4 <sup>2</sup>	4.1
4. הכתב נתפתת בתנתחת בתנתפי התבעי עו	
5· ٤٠٠٠ ٢٠ ٢٠ ٤٠٠ ٢٠٠٠ ٢٠٠٠ ٢٠٠٠ ٢٠٠٠ ٢٠٠	
6. مى سربر مەرى برد ، مى سربرىرى بىرى برى مەنى	
7. עצעק איי אין אין איי אין איי אין איי איין איי	

د مر موج چنر کر مرجوع	
8. ספית התוע נמכי גם נפר ערפת פיתפת	
9. مح. در من مع مربع من	
ورور مرد مرد مرد مرد مرد ورو الح مرا ، مردد	
6.10 وَسَمْ فَرُوْسُ سَرْقٌ عَامَتُ تَوْدِيَرْسُ بَرِدْع	
11. توبرروبو	
12 ومرد مرور مرسور مربع مربع مرد (مرور (مرور (مرد مرد مرد مرد مرد مرد مرد مرد مرد مرد	
ע א א א ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג ג	
כישהרי הי היי היי היי (כישהריה הי 100 000 א הי בא ייניה) כבר בני איי איי איי איי איי איי איי איי	
222 0 5 0 2 2 2 2 2 0 אנציא - ארות קרות בסצת	
13. وي سور برج (-/000، 5 مر - وَسُورْسُ مَرْوِرْر)	
14 כישור שתעשענת בתעמים השעע כ כהבכה שעברם בא אינו איין איין איין איין איין איין איין איי	
ד 2020 2 2 2 2 2 2 0 2 0 2 0 2 0 0 0 0 0	
י 0 ) 5 20 5 6 1 - 0 - 4 5 5 5 0 ספית הפפרה שיצירה שיציית הפתמיציית י - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	5
ג 6 ג 6 ג ג 6 × 0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 ×	5 1
רייט 10 ירים ירי 20 ריינט יי ירט רי ירים א 10 טוטטט עאמת פית בגיע שת הציית גיע דע קר ב שת פצע גריית אריית ש בת פית הפי	3.1
ד אין	5.2
י מי	5.3
ים האבראש האשם היון הוב ב היא האסובש שם 2000 ה 2000 היו האסרט אשר 2000 היו 2000 היו 2000 היו 2000 האר 2000 האר שנית תפתאת גדיצות האשר האית השינת גדיקת ב גדופורט האר היו ב 2000 האיר ב האית באייי האיין ש	5 /
ת נד ת ת ט דע מצע ער שיי ער מצע ער שיי	3.4
ים אירד האיז איד האס הים הדרים אירד האס אים הרבו אים הרבו האיד האיד אירט הים סיצית מרומטית גיציסצת מרומית ציציס במית בתוציסצ ריצורות בציר בסגר בסצת איד איד איד איד איד איד איד איד איד איד	5.5
ננט גענערט התרית הית צית הפי	5.5
ים שיני גער גערם גערי גם גערי גם איני גער אין גערים גער	5.6
ט 0 ג 0 ד ד ג ד ד 2 א 0 י ט ט ארג 100 - 10 ד ג אייני איינ 	5.0
י ה הא 0 × 0 ה א × כו ה 0 א א א הא 2 הא כ 0 0 0 0 1 0 א א ה 0 ה 0 0 י כ כ כ כ כ כ כ כ כ כ כ כ כ כ כ כ כ	
	57
0 1 י 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5.7
כבים בישבים 6 איב 14 משיט בעושים מעפת תתמצב התפותת ב הפעמת תשובית פחפי	
·· · · · · ·	
	6
و: سَمْ مِرْجِ مُرْجَدُ مُرْسُ حُمْدَ مُرْجَعُ چَوْجَرُ رُبَرَرَدٌ رَدَرَرَدٌ رَدَرِ بِمَرْمَوْدُ مَرْجِ مُرْجُعُ جَمْدُ مَرْجَ مَرْجَعُ مَرْعَانُ مُ	6
و: سَمَّ مِرْجِ دَرِ مَرْدُوْدَ مَرْسُ حَدَّ مَرْمَع مَوَدَسُ رَسَرَرَدَ رَدَرَرَدَ مَدَسٍ - 500,000 مَرْدِ رَمَوْدُ مَوْدُ رَدُوْرُدَ مَوْسُ رَسَرَرَدَدٍ وَمَرْمُوسُ دَصُوْنُ مَرَ مَاسَ مَدْمَ مَدْ مِرْدَمَة مَرْدَ مَدْمَة مَوْدُ مَدْدُوْدُ مَوْدُ مَدْدُمَة مَوْسُ مُوسَدَّ مُ	<b>6</b> 6·1

#### ע אינע גנעע געע געע געע געע 10 אינע געע געע געע 10 אינע

ער ער אינש העינט ער פינד מתב ער הרג ש בקפת ∠ בה פות הפי יין ייש	
من سور در مدر در روز مرد در در مدر در مدر در مدر در مدر مدر	6.2
ر	
) ג'יי ג'י ג'י ג'י ג'י ג'יי ג'יי ג'יי סצי ג'י שר אר ג'יי ג'יי ג'יי ג'יי ג'יי ג'יי ג'יי ג'י	6.3
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ים איני גני גיט גם גרובי יים שור גם געור געור גער גער גער איי איי איי גער	6.4
י דר הרו האורט ה	l
בים גיון געריע גער 500.000 גע גער גער גער גער גער גער גער גער גער	-
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<sup>م</sup> د و مرس	7.1
<sup>م</sup> د تۇ تۇ تۇرىپ ئورىرىش، ئەر ھە دۇ ئىلى سۇلىرە دۆ دۆ دەر بىر خىر خىر خىر خىر خىر خىر خىر خىر خىر خ	7·1 8 8·1
<sup>م</sup> و مَ مَرْسُ مَرْسُ مَرْسُ مَدْ مَوْدُ مَسْرَدُ دَمْدَدَمْ مَرْجُوْرُ سَرَّرُ حُسْرَوْمُ مَحَرَّوْمُ مَعْرَدُهُ مَدَمِ مُحْمَرُ مَوْدُمُ مَرْسُ مَدْ مَوْدُ مَدْ مَعْدُ مَسْرَدُ دَمْدَدَمْ مَرْجُرُمْ مَعْرَوْمُ مَعْرَصُرُ مُ مَدَمِ مُعْمَرُ مَدْمَوْمُ عَدْمُ مَعْدَدُ مَدْ مَعْدَدُ مَعْدَمُ مَعْمَرُ مَعْدَمُ مَعْدَمُ مَعْدَمُ مَعْدَدُ تَحْمَرُ مُعْدَمُ مَعْدَدُ مَعْدَمُ مَعْدَدُ مَعْدَمُ مَعْدَمُ مَعْدَمُ مَعْدَمُ مَعْدَمُ مَعْدَمُ مَعْدَمُ مُ <b>تَحْمَرُ مُعْدَمُ مُعْتَعُمُ مُعْتَعُونُ مُعْتَعُمُ مُعْتَمُ مُعْتَعُ مُعْمَ مُومُ مُعْتَمُ مُعْتَعُونُ مُعْتَعْتُ مُومُ مُعْتَعُونُ مُعْتَعْمُ مُعْتَعُونُ مُعْتَعُونُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتَعْتُ مُعْتَعْتُ مُومُ مُعْتَعْ مُومُ مُعْتَعُونُ مُعْتَمُ مُعْتَعُ مُعْتَعُ مُعْتَعْتُ مُومُ مُعْتَعُ مُعْتَعُ مُومُ مُعْتَعْ مُومُ مُعْتَعْتُ مُومُ مُعْتَعُ مُومُ مُعْتَعُ مُومُ مُعْتَعُ مُومُ مُعْتَعْتُ مُومُ مُعْتُ مُومُ مُعْتَعْ مُومَ مُودُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُومُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتُ مُ مُعْتَعُ مُعْتَعُ مُ مُعْتَعُ مُونُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتَعُ مُعْتُ مُعْتُ مُ مُعْتُ مُومُ مُومُ مُعْتُ مُومُ مُعْتُ مُومُ مُعْتَعُ مُومُ م مُعْتَعُ مُعْتَعُ مُعْتُ مُعْتُ مُعْتُمُ مُومُ مُعْتُ مُومُ مُومُ مُومُ مُومُ مُومُ مُومُ مُومُ مُومُ مُومُ مُ مُ مُ مُومُ</b>	7·1 8 8·1
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כם כב בכי בי כם כב יבם בתיינת כתינבת בתיינ שתינ	9
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תם הה בהוכל בהוט הם הההם ובבה ההבבלואבו ב בכון ל וסאהוו בתייית התתצבת' התתצ בתייית סת סתבות הבתמצית הכל איית בסג תייית ה התבסתו. 	
ברבי היי היבי בלקר 17.09 בת שתי היי היי היי היי שקר הבת היי בלקר איי באור באור באור באור באור באור באור באור	
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יכינ 18 ישיים גישי גער	9.2
۵۵ د مرکز PR-14 کر مرکز PR-14 فر مرکز PR-14	
בריכי גם היי גערים איין גערים גערים איין איין גערים גערים בתה בערים בערים גערים גערים גערים איין איין איין גערים גע	
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דרכי געון הם הו סיי הסיי הסיי הי הי הי אין די	0.2
دَّوِرْدَيْرَةُوْسَ مُعَرِير بَرُوَير بَرَسَرْهُ بَر 13-K/CIR/2018/01 ؟ يَحْدُوُنُو 19 ءَدِيرًا "هِوَدْدُ وَرُسَعَرْدُرِ	9.3
נים סיצי בים סיצי היבי היצי PR-14 600 בים הוצי הסיבים הסיוון הת בעבות במעתכיות הבישיות בשלים" PR-14 בכות בוצי סתחממות הותבותהפי הב	
ינס גינס ג בגנס כ י 0 גוס גוס ג איצט אינס גוע גענט ג הכתייי ארג פעצע יינייק ניינייי הג אר ארג אר אייר גענע פיינייניייי	
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ۇ <i>چ</i> ېرېرىمۇڭ → مەرىپىرىمۇ بىر بىرىكرىغى ئىر 13-K/CIR/2018/01 ئە تە تەرىخى 12 تەرىچە "چۈنىرە تورىخە تە	9.4
ים גן נכם גן כים : כמשית מתחת מתחובר הבן "מתכנ כמשית התית מת כשים בר גי גפה אבשרת כמשית	
در بر جود - مرد در الما PR-16 و و سر مرم و سر مع بر مرد و بر سر مرد در بر مرد و مرد و مرد و مرد و مرد و مرد و م رسرر بر و و برر بر فرس PR-16 و و سر مرس و سر مع بر مرو و سر سو مرد و م	

• • • # •	بو ۵۵ ، ۲۵، بود، بره بورسره فروسر فاحد حدث	بر ۵۵ ، ۵۰ ، در سرح فروسر فرد بر
70	( رَسَرَعِ مُسْرَدُ رَبَرَ مَدُ/ رَسَرَعِ مَدُ) × 70 (مَدُ سَعَ مَ مَعَسَرَ مِنَّ بَرِمِرْعِ دِسَرَةً مَدْرُ مَدُ/ رَسَرَعِ مَدُ) (مِحْمَدُ مَوْتُرَ مِوْجَ سَمَّسَ دَوَرِ)	3 / 3 /1 3 /1
30	( بَرْمِسْ مَعْ مِحْسَرْ مَتَرَدْ / مُسْرَدْ دِسْرَمِسْ بَرْمِسْ مِحْسَرْ مَتَرَدْ) × ( مُسْرَعٌ مِحْسَرْ مَتَرَدْ / مُسْرَدْ دِسْرَمْ بَرْمِسْ مِحْسَرُ مَتَرَدْ 20 (مُسَرِدُسْرَةُ مَدْعَ بَرِعٌ مَتَرَبْرِ دَمِدِوَ مَرْسَرْ مِحْ بَرْمَسْ دِسْرَقُسْرَمُوْ.)	* حدقہ مرک
100		د ۵ م بخ و تو

יים הים 2 - בים אינאים הרים אינים באי בים ייי ב הייע המיית 2 - ביל הפתחש עוצרת שיתית עוציית בית בית בית ב

יים יים 3 - יים יש כט יכבש כ היע האית 3 - כיייה עם צע כהעכת

י גם גם 60 גם ביייסרע את 2 ברוצקים	3.1
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גער	
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مِرْهَا مَرْ حَدْمَةُ خَصْرِ مُوْدَةً وَرَدْ 15:00 مِسْ وْسِرْدَشْ مُرْسَرَةً 23:30 مُ سَرِيرَوْسَرْخَ مَ سَرْقَر	
فرۇسەركى بر مرسوچ ھىرىر فرۇسەركى كرىر ئورىر 9:00 برىكر ئور كى مركى مركى 23:30 كى سەرھى ك	
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ر ۵٫۵ دی دستروری سیم بر دستروری سیم بر	3.2
<ul> <li>۱۰ مورو - 05 ، مور روس ورو مربوع در میرسرسرور می مورود در در در موده ۵۰۰ ۱۰ مورو - 05 ، دودر روس ورو مربوع در میرسرسرور می مرسود و در در در در در در مورور</li> </ul>	
יז יכר אר	
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2- בי-הרים בילי לי היאי בי בי בי בי בי בי בי אי בי בי בי 2- בי-הריא הפיציר איצע ביצע איצע בי איצע שי איצע איצע	
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ניטן נטפינים ג'ט ג'ט ג'ט ג'ע	
ר מא אידו איר דר איר איר איר איר איר איר איר איר איר אי	
ב אר ב ב 6 - ב - 6 ל ש ש ש דע רע ב אחר העינת רעינת רי י	
י הסיס בבים טבסי הי זי סיסיסים יבי טבי ביט ב ב טבים 2- בייסתים עיצבת שיניתפ בינים שיציייבתיצית הצפת שיצבתי הצב עיקשית שיצבת	
י הסיס ריא הארס געוני גערט געון אייר 20 איז 20 ג 20 אייז 20 גער 20 גער 20 בי-ארט איצ גערט ארט גערט גע איינגע גערע גער גערט גער	
י הסיס דבים מבסיי שי הסיס ה בש דב הבק אורים אירים אירים בי-הראם איצרת שיתית פיד כש ארצי הבק הצב איתשית האפר שידרת הבאבי	
ריג 00 מורס רוסא גוע גע גע 2000 רא 2000 גע גע 2000 גע 2000 גע גע גע אינצע אינצע אינער אינערפית גפיית פיינית בגאדרג יינצ בפגר רפיית גד פיינ	
י דע אינט גע גע אינט גע	
גבי גערט גברס גבר בגר בגרס יון בארס גערט ג'יין בח' פת בדע המסק המפות פות ותפה המתות שת המקות פות ב הבנמת	
× 0 , 10,10 , 5% ×10 5% 0 %0×0 גרו 57.0 , 12.2 הצייים דיייםרמת בקס, יותם בסד בקמצ הנותפש דיות המיות מצדית מותש הצ	
ננוטנוט ג גערט גארט גארט גארט גערט אוארט טטט גערט טונטט פנפרגרפי ביייקמים גפארט ציקר גערט אישטאית גבאקצ גערפייי פייניטית בגאר ג י	
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	ד אים ג גם גם גרבים ביני בי היגם אבסי הים איי גאו גאו גרבים ביג 5. ד. איתר בישתמה אארב איצע הארע פיתית הערכה אתר אייני גרופע איי אר אייני גרבים ביג או אייני גער אייני אייני גרבים א
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# Form of Tender Security (Bank Guarantee)

The Issuing Bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.

...... {Bank's Name, and Address of Issuing Branch or Office}

#### **Beneficiary:**

{Name and Address of Employer}

#### Date:

#### TENDER GUARANTEE No.:

We have been informed that \_\_\_\_\_\_ {name of the Tenderer} (hereinafter called "the Tenderer") has submitted to you its Tender dated \_\_\_\_\_\_ (hereinafter called "the Tender") for the execution of \_\_\_\_\_\_ {name of contract} under Invitation for Tenders No. \_\_\_\_\_\_ ("the IFB").

Furthermore, we understand that, according to your conditions, Tenders must be supported by a Tender guarantee.

At the request of the Tenderer, we \_\_\_\_\_ {name of Bank} hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of \_\_\_\_\_ [amount in figures] (\_\_\_\_\_) [amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Tenderer is in breach of its obligation(s) under the Tender conditions, because the Tenderer:

- (a) has withdrawn its Tender during the period of Tender validity specified by the Tenderer in the Form of Tender; or
- (b) having been notified of the acceptance of its Tender by the Employer during the period of Tender validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.

This guarantee will expire: (a) if the Tenderer is the successful Tenderer, upon our receipt of copies of the contract signed by the Tenderer and the performance security issued to you upon the instruction of the Tenderer; and (b) if the Tenderer is not the successful Tenderer, upon the earlier of (i) our receipt of a copy your notification to the Tenderer of the name of the successful Tenderer; or (ii) {insert date}twenty-eight days after the expiration of the Tenderer's Tender.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458

[Signature(s)]

# **Performance Security**

[The issuing bank, as requested by the successful Contractor, shall fill in this form in accordance with the instructions indicated]

Date: [insert date (as day, month, and year)] Title of the procurement: [Insert general title of the procurement] Procurement Reference No: [insert reference]

Bank's Branch or Office: [insert complete name of Guarantor]

Beneficiary: [insert complete name of Employer/Procuring Entity]

Performance Guarantee No:

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

This guarantee shall expire, no later than the  $\ldots$  day of  $\ldots$  ,  $\ldots$  ,  $\ldots$  , 2, and any demand for payment under it must be received by us at this office on or before that date. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed ....[six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

[Seal of Bank and Signature(s)]

#### Note –

All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

<sup>1</sup> The Guarantor shall insert an amount representing the percentage of the Contract Price specified in the Contract and denominated either in the currency (ies) of the Contract or a freely convertible currency acceptable to the Employer.

<sup>2</sup> Insert the date twenty-eight days after the expected completion date. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

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# **Advance Payment Security**

[The bank, as requested by the successful Contractor, shall fill in this form in accordance with the instructions indicated.]

Date: [insert date (as day, month, and year)] Title of the Procurement: [Insert general title of the procurement] Procurement Reference No: [insert reference]

[Issuing bank's letterhead]

Beneficiary: [insert legal name and address of Procuring Entity]

ADVANCE PAYMENT GUARANTEE No.: [insert Advance Payment Guarantee no.]

#### **Advance Payment Guarantee No:**

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum ...... [name of the currency and amount in figures] <sup>1</sup> (..... [amount in words]) is to be made against an advance payment guarantee.

At the request of the Contractor, we ......... [name of the Bank]. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ......... [name of the currency and amount in figures]\* (....... [amount in words]) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the ...... day of ..........<sup>2</sup>, whichever is earlier. Consequently, any demand for payment under this

guarantee must be received by us at this office on or before that date. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

#### ..... [Seal of Bank and Signature(s)].....

#### Note –

All italicized text is for guidance in preparing this demand guarantee and shall be deleted from the final document.

1 The Guarantor shall insert an amount representing the amount of the advance payment denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.

2 Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee

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GEDOR CONSULTING PVT. LTD.



# **INSPECTION REPORT**

# People's Majlis Building

Part 2 People's Majlis new Building Terrace waterproofing

Client:People's Majlis

Date:23<sup>rd</sup> August 2021

GedorConsultingPvt. Ltd. 2<sup>nd</sup> Floor, H. Deens Villa MeheliGoalhi Malé, 20012, Maldives

phone: (960) 3318452, fax: (960) 3310317 email: admin@gedor.com.mv www.gedor.com.mv

GEDOR CONSULTING PTE LTD, 03-05-21 12:45

#### **1.0 Introduction**

This report is made after inspecting the terrace floor of the People's Majlis new building. The objective of this report is to advise the client on a suitable methodology for waterproofing and suggest a methodology to rectify the wall structure damaged on the terrace level.

#### 2.0 Assessment methodology

The inspection was carried out visually. The existing structures, damage and the terrace flooring was observed. In addition, screed was checked by tapping for de-bonding.

#### 3.0 Findings

- Steel frame members used to construct the walls covering the AC outdoor units were corroded.
- Part of the framing was completely demolished due to strong winds.
- Signs of corrosion was observed on the structure covering the staircase.
- Cracks were observed on the screed made for water proofing.
- Expansion joints constructed were ineffective causing cracks.

#### 4.0 Proposed waterproofing method

#### Materials required:

- Purtop HA or equivalent Hand Applied Polyurea Membrane3
- Primer SN two component fillerized epoxy primer
- Maperfloor Finish 451 Two component aliphatic polyaspartic finish resistant wear and ultra-violent rays
- Mapeband Treatment to expansion joints and construction joints
- Mapeproof Swell Treatment to drain outlets pipes
- PUtop As a Top Coat

#### **Procedure:**

- All cracks must be repaired with Polymer modified mortar/mapegrout thixotropic
- Make 10mm wide, 16mm deep groves for crack repair in the cracked areas. Staraight saw cut grooves or other means of creating the groove avoiding edge chippings is important.
- Surfaces shall be free from oil, grease, friable matter and general curing compounds and any other foreign substances. Shall be free from honeycombs and undulations.
- The surface shall be grinded properly, and all loose particles are removed and blown off using a compressed air
- Providing Coving at Junction of Slab and the Vertical walls or Up- stands with Polymer modified mortar
- Apply the epoxy Primer SN
- While the product is still fresh, fully sprinkle on a layer of QUARTZ 0.5. Once the PRIMER SN has hardened, remove excess sand and dust with a vacuum cleaner.
- Apply Purtop HA as a waterproofing coating
- Apply PUtop coat at 0.5mm
- Apply Mapefloor finish 451 as a finish coating
- Reffer to the detail application procedure mentioned at Annexure 1

#### 5.0 Proposed rectification method for damaged wall structures

- Remove all steel framing used to construct the walls and staircase area.
- Roughen the area where the wall will be constructed.
- Apply Eurobond 203 to provide bonding between beam and slab.
- Construct beam (B2) shown in the enclosures on the slab level.
- Drill into the slab about 75mm and anchor the 12mm anchor bars at 500mm C/C.
- Use Anchorset Red 300 and anchor grout.
- Erect concrete columns of 200x200 of reinforcement 4T12 with links R6@150, at every 3 meters.
- Drill into the slab about 75mm (or as per anchoring grout data sheet) and anchor the column reinforcement using Anchorset Red 300 or equivalent.
- On top of the columns, construct beams of 250x200 with reinforcement 4T12 and links R6@150.
- Construct masonry walls between columns.
- Same beam and column details can be used to support the roof of the staircase area.
- If columns and roof beams already exists, existing columns and beams can be used.

#### 6.0 Conclusion

In conclusion, the observed damages and water leakage issues can be solved with the above mentioned procedures. All chemicals recommended must be used according to the data sheets. Rebound hammer test was conducted on the terrace floor screed and the test results are satisfactory for the waterproofing work.

Prepared by

Ahméd Ali Civil/Structural Gedor Consulting Pte Ltd

Checked by

Kinaanath Hussain Engineer Civil Engineer Gedor Consulting Pte Ltd

**Enclosures** Photos from site Drawings for wall construction Annexure 1

















GEDOR CONSULTING PTE LTD, 03-05-21 12:45



# TECHNICAL PROPOSAL FOR WATERPROOFING WITH PURTOP HA



# Annexure 1

GEDOR CONSULTING PTE LTD, 03-05-21 12:45



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Site Requirement	6
Surface Preparation	7
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Application of Purtop HA	10
Application of Alipahtic Top Coat	11
Protective Screed	12
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### Introduction to "Purtop HA – Hand Applied Polyurea Membrane "

**Purtop HA** is a two-component, solvent-free, polyurea resin formulate according to a Formula developed in the MAPEI R&D laboratories. The product is applied manually, and has a workability time of 20 minutes at +23°C.

Apply Purtop HA in layers at least 2 mm thick. Due to its high tensile strength, tear strength and crack-bridging capacity, when reticulation is complete, Purtop HA forms a seamless, waterproof coating which adapts to any shape of substrate without cracking (including in service temperatures lower than -20°C).

Due to its excellent chemical resistance, high elasticity and high tear strength, Purtop HA is suitable for forming waterproofing membranes on small to medium size terraces and flat roofs, and for repairing surfaces waterproofed with hybrid polyurea and/or pure polyurea membranes.

Purtop HA is an integral part of the Purtop range of products made by MAPEI, and so may be used wherever these products are employed on limited surface areas, or to repair surfaces after adequate preparation.

#### Advantages:

Purtop HA adheres extremely well to various types of substrate if treated with a suitable primer, and once applied forms a strong, elastic seamless membrane.

Purtop HA offers the following advantages:

- Excellent tensile strength (10 N/mm<sup>2</sup> according to ISO 37);
- Excellent tear strength (40 N/mm according to ISO 34-1);
- High static and dynamic crack-bridging capacity, including at low temperatures (below -20°C
- Elongation capacity of more than 500% (ISO 37);
- No reinforcement required;



• Does not generate overloads on load-bearing structures

#### Recommendations

- Clean and prime substrates before applying Purtop HA.
- Do not apply Purtop HA on substrates with rising damp
- Do not dilute Purtop HA with water or solvent.

TECHNICAL DATA (typical values)		
PRODUCT IDENTITY		
Component A		
Consistency:	thixotropic	
Colour:	grey	
Density (g/m³):	1.6 ± 0.03	
Dry solids content (%):	85	
Brookfield viscosity (+23°C, mPa·s):	70,000 ± 5,000 (rotor 7 - rpm 20)	
Component B		
Consistency:	liquid	
Colour:	colorless	
Density (g/m³):	$1.02 \pm 0.03$	
Dry solids content (%):	100	
Brookfield viscosity (+23°C, mPa·s):	9,700 ± 500 (rotor 7 - rpm 100)	



APPLICATION DATA (A+B)		
A/B ratio (in weight):	100/106.5	
A/B ratio (in volume):	37/63	
Density A+B (g/cm <sup>3</sup> ):	1.30 ± 0.03	
Workability time at +23°C (min):	20	
Resistance to rain at +23°C (hours):	1	
Waiting time before stepping on at +23°C (hours):	24	
Min/max surrounding temperature (°C):	+5/+40	
Maximum level of relative humidity in the air (%):	85	
PERFORMANCE ON FREE FILM (thickness 2 mm)		
Mechanical characteristics after 7 days at +23°C: – Tensile Strength (ISO 37) (N/Mm <sup>2</sup> ): – Elongation At Failure (ISO 37) (%): – Modulus At 100% (ISO 37) (Mpa): – Tear Strength (ISO 34-1) (N/Mm): – Shore A Hardness (DIN 53505): – Glass Transition Temperature (°C):	10 500 3 40 72 -55	





# Methodology for waterproofing System:

The total methodology of waterproofing and insulation of the roof slab consists of the following steps,

Site requirements for waterproofing works.

- 1. Surface preparation of the slab.
- 2. Manual applied waterproofing coating
- 3. Laying screed for the desired thickness / Top Coat
- 4. Reflective Tiles in case of screed concrete.

#### 1. Site requirements:

- a) Concrete should be sound and free from honeycombs. In case the concrete has any cracks, honeycombs shall be treated well in advance.
- b) All the construction joints have to be treated with Polymer Modified Mortar / Mapegrout Thixotropic
- c) The installation or provision for fixing AC shafts, pipelines, steel fabrications, pedestals etc., which needs to be anchored to mother slab, shall be completed before giving site clearance for waterproofing and insulation installation.
- d) All the rain water outlets have to be provided before waterproofing application and covered with necessary arrangements. Grouting for the outlets has to be done in advance.
- e) If any Honey comb / Blow-holes are present, shall be filled using a repair mortar at a trowel able consistency, scraped tightly into the saturated surface,



Use Nivoplan (< 10 mm Thickness) and Mapegrout Thixotropic (> 12 mm -30 mm Thickness)

- f) Any debris/ mud or trash on the surface of the Concrete to be removed and cleaned by water jetting. Arrises shall be rounded off and surface protrusions shall be ground down to ensure a smooth substrate. Any cracks with Low Viscous epoxy grout Epojet LV and undulations on the roof slab have to be treated with Adisilex PG 4, epoxy bedding and repair mortar.
- g) Each type of substrate must be individually accessed to choose the most suitable surface preparation such a grinding, sand blasting, scarifying and brush hammering or other methods and the surface has to be treated with suitable primer
- h) Application on concrete substrate and cementious screed:
   Compressive strength and tear strength of the concrete to be >=25 MPA & 1.5 Mpa respectively.
- i) If the level of residual humidity in the substrate is higher than 4% and it is not possible to wait until it drops to a lower value, apply a number of coats of TRIBLOCK P three-component epoxy-cementitious primer according to the condition of the substrate, until the system is completely sealed.



Fig 1. Cracks on Substrate



Fig 2. Determine and chasing the cracks





Fig Cracks filled with Epoxy Mortar

# 2. Surface preparation of the roof slab:

- a) Surfaces shall be free from oil, grease, friable matter and general curing compounds and any other foreign substances. Shall be free from honeycombs and undulations.
- b) The surface shall be grinded properly, and all loose particles are removed and blown off using a compressed air



Fig 1. Existing Substrate



Fig: 2 Preparations with Grinder





Fig 3. Prepared Substrate

# 3. Parapet wall and Slab, Pedestal and Slab Joint Treatment:

Providing Coving at Junction of Slab and the Vertical walls or Up- stands with Polymer modified mortar (1:3 CM admixed with Panicrete SP, to form a cove of 25 &25 mm thickness .



Fig 1 . Coving of the joints and Up stand

# 3. Base Coat /Priming:

Priming the surface with Primer SN: Two component epoxy resin based pre filled primer shall be applied by adding 0.5 Quartz at specified ratio. The quartz acts like a mechanical key, and helps in bonding the membrane with the concrete.

The surface to be treated shall be sound and free from dust. The surface shall be dry or with very low residual moisture < 4%.



While the product is still fresh, fully sprinkle on a layer of QUARTZ 0.5. Once the PRIMER SN has hardened, remove excess sand and dust with a vacuum cleaner.

Compatible primer coat to be applied on Concrete / metal substrates.

FINAL PERFORMANCE			
Performance characteristic	Test method	Requirements according to UNI EN 13813 for synthetic resin screeds	Product performance
Bond strength (N/mm <sup>2</sup> ):	UNI EN 13892-8; 2004	≥ 1.5	3.20
Reaction to fire:	EN 13501-1	from $A1_1$ to $F_1$	B <sub>8</sub> -s1
Compressive strength:	EN 196-1	-	63 (N/mm²) (7 days at +23°C)
Shore D-hardness:	DIN 53505	-	78 (N/mm²) (7 days at +23°C)



Fig 1. Priming the Surface



Fig 2. Broad casting Quartz for Mechanical Key



### 4. Waterproofing of slab: Manual applied waterproofing coating:

Purtop HA is an integral part of the Purtop range of products made by MAPEI, and so may be used wherever these products are employed on limited surface areas, or to repair surfaces after adequate preparation

Due to its excellent chemical resistance, high elasticity and high tear strength, Purtop HA is suitable for forming waterproofing membranes on small to medium size terraces and flat roofs, and for repairing surfaces waterproofed with hybrid polyurea and/or pure polyurea membranes.



Fig 1 : Application of Purtop HA



Fig 2 : Completed Purtop HA

# 5. System Built Up





5. Top Coat

# Application of PU Top Coat at 0.5 mm:

**Mapefloor Finish 451** is a two-component, aliphatic, elastic polyurethane finish that offers high resistance to wear, abrasion and UV rays. Surfaces treated with Mapefloor Finish 451 also have an attractive finish.

Substrates to be coated must be structurally sound and free of loose parts, dust, dirt, grease, oil and any other material or substance that could compromise adhesion of the finish to the substrate.

# Preparation of the product :

Mix the two components separately with an electric mixer at low speed. Then pour component B into the container of component A and mix for several minutes until they are completely blended. Only prepare the quantity required within the maximum workability time (approximately 40 minutes at +23°C).

# Application of the product :

Mapefloor Finish 451 may be applied in a single coat with a roller or with a smooth steel or rubber trowel. If the finish is applied with a roller, we recommend applying the product with criss-cross strokes and to make sure that it is applied evenly to get a good, attractive finish. If the finish is applied with a rubber trowel, consumption will be lower and the surface will be rougher.





# 6. Provision of Screed:

The slope/fall required on the terrace to drain off the rain water is built with concrete screed. A slope built-up of 1 in 100 is done on the with concrete screed. The thickness of screed shall be minimum 50mm with Minimum reinforcement usually, M20 – M25 grade of concrete, low fine concrete where in a good workable concrete can be obtained using a hyperplastisizers "DYNAMON SX 534" in the concrete.

Control Joints shall be filled with Mapeflex PU 45

# 7. Providing Protection tiles:

After the screed is cured, the reflecting tiles shall be laid using the Kerabond T and joint shall be filled utracolor Plus



Application of PURTOP HA





8. Verify acceptability of surface before applying Primer / Polyurea



Tensile strength by Pull off TEST Moisture Metre

Moisture Test by Impedance



Compressive Test by Schmidt-Hammer test



**Technical Data sheet** 





#### Videos

Mapei Corporate Video: https://youtu.be/qo-KVMEXCiw

Mapefloor Finish 451 application: https://youtu.be/MXAqTWpxazE
# Image: A constrained by the constra

Two-component coloured aliphatic polyurethane topcoat for membranes from the Purtop range

### WHERE TO USE

**Mapecoat PU 20 N** is a coloured protective topcoat for membranes from the **Purtop** range with high level of elasticity and excellent resistance to abrasion.

### **TECHNICAL CHARACTERISTICS**

**Mapecoat PU 20 N** is a two-component, solventbased, aliphatic polyurethane topcoat developed in the MAPEI research laboratories with the following characteristics:

- elasticity, which makes it suitable for coating membranes from the **Purtop** range;
- resistant to UV rays and atmospheric agents;
- good hydrolysis stability;
- · highly attractive shiny finish;
- easy to clean and resistant to the growth of mould and fungus;
- available in various RAL colours.

### RECOMMENDATIONS

- Only apply **Mapecoat PU 20 N** if the temperature of the substrate is at least 3°C higher than dew point.
- Apply **Mapecoat PU 20 N** within 24 hours of applying membranes from the **Purtop** range.
- Do not apply **Mapecoat PU 20 N** on substrates with a moisture content of more than 4%.

### APPLICATION PROCEDURE Substrate preparation

If the substrate to be treated has been coated with a membrane from the **Purtop** range, it must be structurally sound and free of loose areas, dust, dirt, grease, oil and any other material or substance that could affect adhesion of the finish to the substrate. When applying **Mapecoat PU 20 N** by spray on polyurethane membranes from the **Purtop** range, roughen the surfece by sanding (remove all dust with a vacuum cleaner). Then apply **Primer P3** two-component polyurethane primer.

### **Preparation of the product**

Prepare **Mapecoat PU 20 N** with an electric mixer. To prepare the mix, blend the two components separately with an electric mixer at low-speed, pour the contents of component B into the container of component A and mix for a few minutes until they are thoroughly blended; make sure you only prepare an amount that can be used within the maximum workability time (approximately 60 minutes at +23°C). If a higher degree of non-slip finish is required, add micronized polyamide **Mapecoat Filler** to **Mapecoat PU 20 N** at a rate of 7% of the weight of component A while mixing at low-speed.

### Application of the product

Apply two coats of **Mapecoat PU 20 N** with a roller, making sure the total consumption rate is never less than  $0.3 \text{ kg/m}^2$ . The product may also be applied by airless spray; in such cases it must be diluted with maximum 5% of **Thinner PU**.



### **TECHNICAL DATA (typical values)**

### PRODUCT IDENTITY

	component A	component B
Consistency:	liquid	liquid
Colour:	according to RAL colour available	neutral
Density (g/cm³):	1.25	1.07
Dry solids content (%):	71	75
Brookfield viscosity at +23°C (mPa·s):	1350 (rotor 4 - 50 RPM)	320 (rotor 3 - 50 RPM)
APPLICATION DATA (at +23°C and 50% R.H.)		
Mixing ratio:	comp.A : comp.B = 4.3 : 0.7	7
Consistency of mix:	liquid	
Density of mix (g/cm³):	1.20	
Brookfield viscosity of mix (mPa·s):	1200 (rotor 4 - 50 rpm)	
Pot-life of mix (mins.):	approx. 60	

Set to foot traffic (h):

Application temperature:

If the topcoat is applied with a roller, it is recommended to spread it out evenly and apply it in criss-cross strokes to get a nice, attractive finish.

### **Cleaning tools**

Tools used to mix and apply the product may be cleaned with thinners before it hardens. Once hardened, it may only be removed mechanically from tools and mixers.

### CONSUMPTION

0.15-0.2 kg/m<sup>2</sup> per coat.

In general, the consumption rates below are for a seamless film on a flat surface and will be higher on uneven substrates.

### PACKAGING

Mapecoat PU 20 N is available in metal drums in two sizes:

- comp. A = 17.2 kg and comp. B = 2.8 kg;

– comp. A = 4.3 kg and comp. B = 0.7 kg.

### STORAGE

+10°C to +35°C

24

**Mapecoat PU 20 N** may be stored for 12 months in its original packaging in a covered, dry area at a temperature of  $+5^{\circ}$ C to  $+35^{\circ}$ C.

### SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapecoat PU 20 N** components A and B are inflammable. It is recommended to store the product away from naked flames and sparks, to avoid smoking, to prevent the build-up of electrostatic energy and to work in well ventilated areas.

Components A and B may irritate the respiratory system and may cause sensitisation to those predisposed if they come into contact with the skin. **Mapecoat**  **PU 20 N** component A may also cause drowsiness and dizziness. Component B irritates the skin and is harmful if inhaled. During use wear protective gloves and goggles and take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin wash immediately with plenty of water and seek medical advice. Wear suitable protection for the respiratory system.

Mapecoat PU 20 N component A is also hazardous for aquatic life. Do not dispose of this product in the environment. For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

### PRODUCT FOR PROFESSIONAL USE.

### WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

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JARA

7487-3-2019-I (GB)





Two-component aliphatic elastic coloured polyaspartic finish resistant to wear and ultra-violet rays



Thanks to its flexibility, extremely simple application procedure and high resistance to abrasion and UV rays, **Mapefloor Finish 451** is recommended as a protective finish for **Mapefloor PU 400**, **Mapefloor PU 400 LV** and/or **Mapefloor PU 410**, used to make protective and watertight coatings for flat and sloping roofs accessible to pedestrians and vehicles use, including external surfaces.

### Some application examples

- Protective, abrasion-resistant finish for external waterproof systems made from Mapefloor PU 400, Mapefloor PU 400 LV and Mapefloor PU 410 membranes after broadcasting them in excess with quartz sand.
- Coloured finish for bridges and walkways after applying specific, elastic polyurethane waterproofing membranes.

### **TECHNICAL CHARACTERISTICS**

**Mapefloor Finish 451** is a two-component, aliphatic, elastic polyaspartic finish with excellent resistance to wear, abrasion and ultra-violet rays.

Surfaces treated with **Mapefloor Finish 451** also have an attractive finish.

Mapefloor Finish 451 has the following characteristics:

- good level of elasticity;
- high resistance to wear and abrasion;
- excellent resistance to ultra-violet rays;
- excellent resistance to atmospheric agents;

• available in various RAL colours. Please contact Head Office for a full list of the colours available.

EN 1504-2

Thanks to its high resistance to ultra-violet rays and atmospheric agents, **Mapefloor Finish 451** is ideal for use on external surfaces.

**Mapecoat Finish 451** applied on concrete supports, it complies with the principles defined in EN 1504-9 ("Products and systems for protecting and repairing concrete structures. definitions, requirements, quality control and conformity evaluation - General principles for the use and application of systems") and with the requirements of EN 1504-2 ("Products and systems for the protection and repair of concrete") for class: products for protecting surfaces – coating (C) – protection against ingress (PI) + moisture control (MC) + physical resistance/surface improvement (PR) + resistance to chemicals (RC) + increasing resistivity by limiting moisture content (IR).

### RECOMMENDATIONS

- The workability of the product is influenced by the surrounding temperature and the temperature of the substrate. Workability time varies according to the surrounding temperature and reduces as the temperature increases. We recommend, therefore, preparing only the quantity to be applied within the maximum workability time (approximately 40 minutes at +23°C).
- Do not dilute Mapefloor Finish 451 with solvent or water.



### **TECHNICAL DATA (typical values)**

PRODUCT IDENTITY		
	comp. A	comp. B
Colour:	various RAL colours	transparent colourless
Consistency:	liquid	liquid
Brookfield viscosity at +23°C (mPa·s):	6,000 ÷ 9,000 (rotor 6 - 50 revs)	175 ÷ 300 (rotor 2 - 50 revs)
Density (g/cm³):	$1.63 \pm 0.05$	1.1 ± 0.05
APPLICATION DATA (at +23°C - 50% R.H.)		
Mixing ratio:	comp. A : comp. B = 70 : 30	
Colour of mix:	RAL colours	
Consistency of mix:	fluid paste	
Density of mix (kg/m³):	1,480	
Viscosity of mix (mPa s):	1,500 ± 200 (rotor 4 - 50 revs)	
Pot life at +23°C:	40 mins.	
Dust dry at +23°C, 150 microns on glass:	90 mins.	
Application temperature:	+10°C to +30°C	
Set to foot traffic at +23°C:	24 hours	
Final hardening time at +23°C:	3 days	
FINAL PERFORMANCE		
Maximum deformation after 7 days at +23°C + 14 days at +50°C (DIN 53504) (%):	43	
Tear strength after 7 days at +23°C + 14 days at +50°C (DIN 53515) (N/mm):	97	
Tensile strength after 7 days at +23°C + 14 days at +50°C (DIN 53504) (N/mm²):	12.2	
Taber abrasion resistance (CS17 disk - 1,000 g - 1,000 revs) after 7 days at +23°C (EN ISO 5470-1) (mg):	95	
Shore A hardness (DIN 53505):	85	
Shore D hardness (DIN 53505):	40	

- Do not apply **Mapefloor Finish 451** on dusty or crumbling substrates.
- Do not apply **Mapefloor Finish 451** on substrates with oil, grease or stains in general.
- Do not mix partial quantities of the components to avoid mixing errors; the product may not harden correctly.
- Do not expose the mixed product to sources of heat.
- The coating may change colour if it comes into contact with aggressive chemicals. A change in colour, however, does not mean that it has been damaged by the chemical.
- Remove aggressive chemicals as soon as possible after they come into contact with **Mapefloor Finish 451**.

- Use suitable specific cleaning equipment and detergent to clean the coating, depending on the type of dirt or stain to be removed.
- Protect the product from water for at least 24 hours after application.
- The product and resin system containing this product must not be applied on cementitious substrates with a moisture content higher than 4% or with capillary rising damp (check with a sheet of polythene).
- The temperature of the substrate must be at least 3°C above dew-point.

### APPLICATION PROCEDURE Substrate preparation

Apply Mapefloor Finish 451 on the surface of hardened resin broadcast in excess with

### sand, such as Mapefloor PU 400, Mapefloor

**PU 400 LV** and **Mapefloor PU 410**, and after removing any excess sand from the surface. Substrates must be structurally sound with no detached areas and must also be clean, dry and free of all traces of dust, oil, grease and any other compound or substance that could affect adhesion.

### **Preparation of the product**

Mix the two components separately with a low speed electric mixer. Pour component B into the container of component A and mix for several minutes until completely blended. Only prepare the quantity required within the maximum workability time (approximately 40 minutes at  $+23^{\circ}$ C).

### **Application of the product**

Apply **Mapefloor Finish 451** in a single coat by roller or by straight steel or rubber trowel. If the finish is applied by roller, it is recommended to apply the product in crisscross strokes and to make sure it is applied uniformly to get an even, attractive finish. If the finish is applied by rubber trowel, consumption will be lower and the surface will be rougher.

### Cleaning

Clean tools used to mix and apply the product with polyurethane thinners before it hardens. Once hardened the material may only be removed mechanically.

### CONSUMPTION

Consumption depends on the roughness of the substrate, the surrounding temperature and the type of tool used to apply the product. The figures indicated are for application on a substrate at a temperature of  $+15^{\circ}$ C to  $+25^{\circ}$ C. Lower temperatures increase the consumption rate and the hardening time of the product.

<u>Theoretical consumption:</u>  $0.6-0.8 \text{ kg/m}^2$  (it is recommended to carry out a preliminary test to estimate the actual consumption rate for the material).

### PACKAGING

Component A: 14 kg. Component B: 6 kg.

### STORAGE

Store the product in a covered, dry place at a temperature of  $+15^{\circ}$ C to  $+25^{\circ}$ C. The product may be stored for 12 months in such conditions.

# SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

**Mapefloor Finish 451** components A and B may cause sensitisation to those predisposed if it comes in contact with the skin.

**Mapefloor Finish 451** component B is inflammable. It is recommended to store the product away from flames and sparks, to avoid smoking, to prevent the build-up of electrostatic charges and to work in well ventilated areas.

During use wear protective gloves and goggles and take the usual precautions for handling of chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention. Wear suitable protection for the respiratory system. **Mapefloor Finish 451** component A is also hazardous for aquatic life; do not dispose of the product in the environment. For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

### WARNING

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TACK

PERFORMANCE CHARACTERISTICS FOR CE CERTIFICATION ACCORDING TO EN 1504-2 - TAB. ZA. 1d ; ZA.1e; ZA 1f; ZA 1g (coating C, PI-MC-PR-RC-IR)

Main characteristics	Test method according to UNI EN 1504-2	Requirements	Performance of product
Abrasion resistance (TABER test) Note: testing methods for flooring systems according to EN 13813 are also acceptable	EN ISO 5470-1	Loss in weight less than 3000 mg with an H22 abrasive disk/1,000 cycles/1,000 g load	"800 mg (typical value)"
Permeability to CO <sub>2</sub>	EN 1062-6	Permeability to $CO_2 S_D > 50 \text{ m}$	S <sub>D</sub> 130 m
Permeability to water vapour	EN ISO 7783	$\begin{array}{l} Class \mbox{ I: } S_{\rm D} < 5 \mbox{ m} \mbox{ (permeable to water vapour)} \\ Class \mbox{ II: } 5 \mbox{ m} < S_{\rm D} < 50 \mbox{ m} \\ Class \mbox{ III: } S_{\rm D} > 50 \mbox{ m} \mbox{ (impermeable to water vapour)} \end{array}$	Class III
Resistance to thermal shock (1x)	EN 13687-5	After thermal cycles         a) no swelling, cracking or         delamination         b) Average direct traction adherence         test (N/mm²)         Cracking or flexible systems         with no traffic: $\geq 0.8 (0.5)^{b_1}$ with traffic: $\geq 1.5 (1.0)^{b_1}$ Rigid systems <sup>c)</sup> with no traffic: $\geq 1.0 (0.7)^{b_1}$ with traffic: $\geq 2.0 (1.0)^{b_1}$	3.48 MPa (Flexible system with traffic)
Capillary absorption and permeability to water	EN 1062-3	$w < 0.1 \text{ kg/m}^2 \cdot h^{0.5}$	0.004 kg/m <sup>2</sup> · h <sup>0.5</sup>
Impact strength measured on MC (0.40) coated concrete samples according to EN 1766. Note: the thickness and design impact load influence which class is chosen	EN ISO 6272 - 1	No cracks or delamination after loading Class I: ≥ 4 Nm Class II: ≥ 10 Nm Class III: ≥ 20Nm	Class II
Direct traction adherence test. Reference substrate: MC (0.40) as specified in EN 1766, curing time: - 28 days for one-component systems containing concrete and PCC systems: - 7 days for reactive resin systems:	EN 1542	$\begin{array}{llllllllllllllllllllllllllllllllllll$	3.38 MPa (Flexible system with traffic)
Resistance to severe chemical attack. Class I: 3 days with no pressure Class II: 28 days with no pressure Class III: 28 days with pressure It is advisable to use test liquid for the 20 classes indicated in EN 13529 to cover all common types of chemical agents. Other test liquids may be agreed upon between those interested in the tests	EN 13529	Reduction of hardness less than 50% when measured according to the Buchholz method, EN ISO 2815, or the Shore method from EN ISO 868), 24 hours after removing the coating from immersion in the test liquid	GROUP 1: Class II GROUP 3: Class II GROUP 12: Class II
Exposure to artificial atmospheric agents according to EN 1062-11:2002, 4.2 (radiation, UV rays and humidity) for external applications only. Only white and RAL 7030 require testing	EN 1062-11	After 2,000 hours of artificial bad weather: – no swelling according to EN ISO 4628-2 – no cracking according to EN ISO 4628-4 – no flaking according to EN ISO 4628-5 slight colour variation, loss of brightness and crumbling may be acceptable	No swelling, cracking or flaking
Reaction to fire	EN 13501-1	$A1_{FL}$ to $F_{FL}$	B <sub>FL</sub> -s1



Two-component fillerized epoxy primer

### WHERE TO USE

**Primer SN** has been specifically formulated to carry out preliminary priming treatments on surfaces before applying epoxy and polyurethane resin systems from the **Mapefloor** range and self-levelling cementitious mortars from the **Ultratop/Ultratop Living** range to protect and coat civil and industrial floors, terrazzo floors and cementitious substrates in general.

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### Some application examples

- Adhesion promoter for epoxy and polyurethane coating products in general.
- Adhesion promoter for self-levelling and/or multilayered coating products.
- Adhesion promoter for flooring made from synthetic mortar.
- Adhesion promoter for coatings from the **Ultratop** and **Ultratop Living** ranges.
- Fluid adhesive to seal cracks and make structural bonds.

### **TECHNICAL CHARACTERISTICS**

**Primer SN** is a two-component, fillerized epoxy resinbased primer applied with a roller, metal trowel or smooth rake according to a formula developed in the MAPEI R&D Laboratories.

Primer SN may be used as it is or mixed with

**Quartz 0.5** to improve adhesion of resin coating systems and even out surfaces. Thanks to its special formulation, **Primer SN** is characterised by its ability to penetrate into substrates and may even be applied on moderately damp surfaces.

EN 13813

### RECOMMENDATIONS

- Do not apply **Primer SN** on substrates with rising damp if they are going to be coated with an epoxy or polyurethane system.
- Do not dilute Primer SN with solvent or water.
- Do not apply Primer SN on dusty, crumbling or weak substrates.
- Do not apply Primer SN on substrates with oil or grease stains or stains in general.
- Do not apply Primer SN on substrates that have not been prepared according to specification.
- Do not mix partial quantities of the components to avoid mixing errors; the product may not harden correctly.
- Do not expose the mixed product to sources of heat.
- If rooms where the product is being used need to be warmed up do not use heaters that burn hydrocarbons, otherwise the carbon dioxide and water vapour given off into the air will affect the shine



### **TECHNICAL DATA (typical values)**

PRODUCT IDENTITY		
	component A	component B
Colour:	neutral	straw-yellow
Consistency:	liquid	liquid
Density (EN ISO 2811-1) (g/cm³):	1.65	0.99
Viscosity at +23°C (EN ISO 2555) (mPa·s):	3000 (# 4 - 20 rpm)	200 (# 1 - 20 rpm)

### APPLICATION DATA (at +23°C and 50% R.H.)

Mixing ratio:	component A : component B = 80 : 20
Colour of mix:	neutral
Consistency of mix:	thick fluid
Density of mix (EN ISO 2811-1) (kg/m <sup>3</sup> ):	1500
Viscosity of mix (EN ISO 2555) (mPa·s):	1100 ± 100 (# 3 - 50 rpm)
Workability time at +20°C:	30 mins.
Application temperature:	from +8°C to +35°C
<ul> <li>Waiting time between coats at +23°C and 50% R.H.:</li> <li>on Primer SN without a dry-shake finish of quartz sand:</li> <li>on Primer SN with a dry-shake finish of quartz sand:</li> </ul>	min. 12 hours, max. 48 hours min. 12 hours, no maximum limit* *surfaces must be dry with no dust
Hardening time at +23°C and 50% R.H.: – dust dry: – set to foot traffic: – full hardening time:	approx. 6 hours approx. 24 hours approx. 7 days

The times above are for indication purposes only and are influenced by actual site conditions (e.g. temperature of the surroundings and substrate, relative humidity of the surrounding air, etc.)

FINAL PERFORMANCE			
Performance characteristic	Test method	Requirements according to EN 13813 for synthetic resin-based screeds	Performance of product
Adhesion strength (N/mm <sup>2</sup> ):	EN 13892-8; 2004	≥ 1.5	3.20
Reaction to fire:	EN 13501-1	from A1 <sub>fl</sub> to F <sub>fl</sub>	B <sub>fi</sub> -s1
Compressive strength (N/mm <sup>2</sup> ):	EN 196-1	-	63 (7 days at +23°C)
Shore D hardness:	DIN 53505	-	78 (7 days at +23°C)

on the finish and ruin its appearance. Use electric heaters only.

- Protect the product from water for at least 24 hours after application.
- Do not apply the product directly on substrates with moisture content higher than 4% and/or with capillary rising damp (check by testing it with a sheet of polythene).
- The temperature of the substrate must be at least 3°C higher than the dew-point temperature.

### **APPLICATION PROCEDURE Preparation of the substrate**

The surface of concrete floors must be preferably dry or slightly damp, clean and sound and have no crumbling or detached portions. The substrate concrete must have a compressive strength of at least 25 N/mm<sup>2</sup> and a minimum tensile strength of 1.5 N/mm<sup>2</sup>. The strength of the substrate must also be suitable for its final use and the types of load to which it will be subjected.

The level of moisture in the substrate must be a maximum of 4% and there must be no capillary rising damp (check by testing it with a sheet of polythene).

The surface of the floor must be prepared with a suitable mechanical process (e.g. shotblasting or grinding with a diamond disk) to remove all traces of dirt, cement laitance and crumbling or detached portions, and to make the surface slightly rough and absorbent. Concrete surfaces impregnated with oil and grease must be thoroughly cleaned with a 10% solution of water and soda or detersive soap and then rinsed several times with plenty of clean water. Remove any water from the surface and wait until the level of residual moisture is no higher than 4% before applying **Primer SN**.

If the oil or grease has penetrated deeper into the substrate, on the other hand, all the affected concrete must be removed by scarifying. The substrate must then be integrated with **Mapefloor EP19**, a three-component epoxy mortar. Before applying **Primer SN** remove all traces of dust from the surface with a vacuum cleaner.

### **Preparation of the product**

The two components which make up **Primer SN** must be blended together just before application. Mix component A thoroughly and add the contents of component B. Add **Mapecolor Paste** if required and up to 50% by weight of quartz sand according to the surrounding temperature (to even out rough surfaces). Mix again with an electric mixer at low speed to prevent entraining air into the mix (300-400 revs/min) for at least 2 minutes until the mix is completely blended.

Pour the mix into a clean container and briefly mix again.

Do not mix the product for too long to prevent entraining too much air into the mix. Apply the mix within the pot life indicated in the table (refers to a temperature of +20°C). Higher surrounding temperatures will reduce the pot life of the mix, while lower temperatures will increase its pot life.

### **Application of Primer SN**

Apply an even coat of neat Primer SN or mixed with Quartz 0.5 on the substrate after it has been prepared as specified with a straight trowel or rake. Then broadcast with Quartz 0.5 - according to the kind of system to be realized - to ensure the next coat of resin adheres perfectly. If Ultratop or Ultratop Living is to be applied, use 1.2 mm quartz sand for the broadcast. Make sure there are no open pores in the surface of the substrate, otherwise air bubbles could escape from the substrate and form pinholes in the coating system to be applied. This is particularly important when applying self-levelling resin or cementitious systems.

### **Cleaning tools**

Clean tools used to prepare and apply **Primer SN** immediately after use with ethanol. Once hardened, the product may only be removed mechanically.

### CONSUMPTION

0.3-0.7 kg/m<sup>2</sup> per coat depending on the characteristics of the substrate such as roughness, absorbency, temperature, etc.

### PACKAGING

5 kg kits: component A = 4 kg; component B = 1 kg. 20 kg kits: component A = 16 kg; component B = 4 kg.

### STORAGE

**Primer SN** must be stored in its original packaging in a dry place at a temperature of between +5°C and +30°C. Max. 24 months.

### SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Primer SN component A is irritant for the eyes and skin. Both component A and B may cause sensitization when in contact with the skin of those predisposed. Primer SN component B is corrosive and may cause burns. Furthermore, it is hazardous if swallowed. The product contains low molecular weight epoxy resins that may cause sensitization if cross-contamination occurs with other epoxy compounds. During use, wear protective gloves and goggles and take the usual precautions for handling chemicals. In case of contact with the eyes or skin wash immediately with plenty of clean water and seek medical attention. When the product reacts it generates considerable heat. After mixing components A and B we recommend applying the product as soon as possible and to never leave the





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container unguarded until it is completely empty.

Furthermore, **Primer SN** component A is dangerous for aquatic life. Do not dispose of it into the environment.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

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2901-11-2017 (GB)





STUMP COLUMN PLAN

\_\_\_\_\_ 10m



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# LOWER BEAM PLAN

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BEAM (B1) DETAILS

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Deens Villa Meheli Goalhi Malé 20012 Republic of Maldives SULT/ Tel: +960 3318452 Fax: 960 310317 E-Mail: admin@gedor.con Webpage: gedor.com.mv









Revision	Date	Drawn By	Checked By
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REV "A" A PLAN XX	ACCORDING	G TO ARCH	ITECTURAL

onone.	
PEOPLE'S MAJILIS	

# Project Title : PEOPLE'S MAJILIS NEW BUILDING TERRACE WATER PROOFING

Building Name : PEOPLE'S MAJILIS Drawing Title : ROOF PLAN

Original Drawn By : YVONNIE	Date : 05 APRIL 2021
SUBMISSION	
STRUCTURAL	
1:100 Discipline :	

Revision Number R00 File Name : PMNB-21-106R00.dwg



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### COMPRESSIVE STRENGTH TEST BY REBOUND HAMMER

BS 1881 (Part-202)

Reference no.: BLM2021/1264 Client: Majlis New Building Project: Majlis New Building Position of hammer: A Placement:Terrace Area Location 01

Report No: RH/21/184 Date of Testing: 22/08/2021

	1	2	3	4	5	6	7	8	9
Rebound Number	33	36	37	38	31	34	32	29	30
Average Rebound Number					33.33	3			
Avg. Compressive Strength N/mm <sup>2</sup>					36				

Note: 1. Concrete mix ratio

2.Admixture:

3.Tested at saturated/moist/dry condition

4.Sample identification and concrete admixture details as supplied by the client



Remarks:

Tested & Prepared by:

Fazil Junaideen Laboratory Technician

For, Kinaanath Hussain Supervising Engineer

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### COMPRESSIVE STRENGTH TEST BY REBOUND HAMMER

BS 1881 (Part-202)

Reference no.: BLM2021/1264 Client: Majlis New Building Project: Majlis New Building Position of hammer: A Placement:Terrace Area Location 02

Report No: RH/21/185 Date of Testing: 22/08/2021

	1	2	3	4	5	6	7	8	9
Rebound Number	28	26	30	25	25	24	28	26	32
Average Rebound Number	27.11								
Avg. Compressive Strength N/mm <sup>2</sup>					24				

Note: 1. Concrete mix ratio

2.Admixture:

3.Tested at saturated/moist/dry condition

4.Sample identification and concrete admixture details as supplied by the client



Remarks:

Tested & Prepared by:

Fazil Junaideen Laboratory Technician

For, Kinaanath Hussain Supervising Engineer

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### COMPRESSIVE STRENGTH TEST BY REBOUND HAMMER

BS 1881 (Part-202)

Reference no.: BLM2021/1264 Client: Majlis New Building Project: Majlis New Building Position of hammer: A Placement:Terrace Area Location 03

Report No: RH/21/186 Date of Testing: 22/08/2021

	1	2	3	4	5	6	7	8	9
Rebound Number	25	20	21	25	27	29	24	21	24
Average Rebound Number	24.00								
Avg. Compressive Strength N/mm <sup>2</sup>					21				

Note: 1. Concrete mix ratio

2.Admixture:

3.Tested at saturated/moist/dry condition

4.Sample identification and concrete admixture details as supplied by the client



Remarks:

Tested & Prepared by:

Fazil Junaideen Laboratory Technician

For, Kinaanath Hussain Supervising Engineer

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### COMPRESSIVE STRENGTH TEST BY REBOUND HAMMER

BS 1881 (Part-202)

Reference no.: BLM2021/1264 Client: Majlis New Building Project: Majlis New Building Position of hammer: A Placement:Terrace Area Location 04 (AC Area)

Report No: RH/21/187 Date of Testing: 22/08/2021

	1	2	3	4	5	6	7	8	9
Rebound Number	23	33	23	24	24	20	26	28	24
Average Rebound Number	25.00								
Avg. Compressive Strength N/mm <sup>2</sup>					22				

Note: 1. Concrete mix ratio

2.Admixture:

3.Tested at saturated/moist/dry condition

4.Sample identification and concrete admixture details as supplied by the client



Remarks:

Tested & Prepared by:

Fazil Junaideen Laboratory Technician

For, Kinaanath Hussain Supervising Engineer

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### COMPRESSIVE STRENGTH TEST BY REBOUND HAMMER

BS 1881 (Part-202)

Reference no.: BLM2021/1264 Client: Majlis New Building Project: Majlis New Building Position of hammer: A Placement:Terrace Area Location 05 (AC Area)

Report No: RH/21/188 Date of Testing: 22/08/2021

	1	2	3	4	5	6	7	8	9
Rebound Number	29	38	36	32	34	29	26	30	37
Average Rebound Number	32.33								
Avg. Compressive Strength N/mm <sup>2</sup>					34				

Note: 1. Concrete mix ratio

2.Admixture:

3.Tested at saturated/moist/dry condition

4.Sample identification and concrete admixture details as supplied by the client



Remarks:

Tested & Prepared by:

Fazil Junaideen Laboratory Technician

For, Kinaanath Hussain Supervising Engineer

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### COMPRESSIVE STRENGTH TEST BY REBOUND HAMMER

BS 1881 (Part-202)

Reference no.: BLM2021/1264 Client: Majlis New Building Project: Majlis New Building Position of hammer: A Placement:Terrace Area Location 06 (AC Area)

Report No: RH/21/189 Date of Testing: 22/08/2021

	1	2	3	4	5	6	7	8	9
Rebound Number	27	31	36	35	31	35	28	37	30
Average Rebound Number					32.22	2			
Avg. Compressive Strength N/mm <sup>2</sup>					34				

Note: 1. Concrete mix ratio

2.Admixture:

3.Tested at saturated/moist/dry condition

4.Sample identification and concrete admixture details as supplied by the client



Remarks:

Tested & Prepared by:

Fazil Junaideen Laboratory Technician

For, Kinaanath Hussain Supervising Engineer

Bill Of Quantities (BOQ)

BOQ for:

Renovation Works for Majlis New Building at Terrace Floor Works

**Project Title:** 

# <u>Majlis New Building Terrace Repair</u> <u>works</u>



October 3, 2021

# Renovation Works for Majlis New Building at Terrace Floor Works

BOQ Summary

Date: 3-Oct-21

Bill Item No	Description	Total Amount (MVR)
1.0	Preliminaries	-
2.0	Concrete Works	-
3.0	Masonry Works	-
4.0	Demolishing & Removing Works	
5.0	Other Works	-
6.0	Additional Works	-
7.0	Omission Works	-
		-
	Total Amount (MVR)	-
	GST - 6%	-
	Grand Total (MVR)	-

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
	Bill No · 1				
	Preliminaries				
1.1	General Notes				
1	Symbols & Abbreviations				
	m meter				
	nr - numbers				
	m <sup>3</sup> - cubic meter				
	m <sup>2</sup> - square meter				
	kg - kilograms				
	t - tonne				
	incl - including				
	> - exceeding				
	$\geq$ - equal to or exceeding				
	dia - diameter				
	$\leq$ - not exceeding				
	< - less than				
	% - percentage SS - Stainless Steel				
	GI - Galvanized Iron				
1.2	Site Management, Staff & Office Maintain Cost				
1	Allow for site management cost including technical staff etc.	Item	1.00		-
2	Allow for temporary office maintain at site, facilities including	Item	1.00		-
	office equipment, stationeries, computers & printers, if any				
	other cost.				
3	Allow to the Contractor to include plant, machineries and	Item	1.00		-
	equipment cost related to the works.				
1.3	Temporary Fencing and Hoarding NA	NA	NA		
1	Control another residence of a farmer through out the personation	Thomas	1.00		
1	period and hoarding all along the perimeter of the site until	Item	1.00		-
	completion.				
1.4	Safety On Site and Site Security Works				
1	Providing and maintains adequate safety measures for whole	Item	1.00		_
-	workers, staff and authorized visitors and site security works for	100111			
	the works and people until completion of the works.				
1.5	<u>Clean-up</u>				
1	Allow for clean-up of completed works and site upon	Item	1.00		-
	completion. Rate to include demobilization & removal of debris				
	and gardage monit site.				
1.6	Setting Out				
1	Setting out of the Works. If any	Itom	1.00		
1	occurs out of the works, it any.	item	1.00		-

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
1.7	Precautionary protect on ground, underground or existing				
1.7	utilities, structures, services until complete the works.				
1	Allow for precaution measures & maintaining for existing building, structure, foundation, existing utilities until completion the works as required. If there is any existing services to be protected can be included under this item.	Item	1.00		-
	Total of Bill No: 01 - Carried to Bill Summary				-

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
2.0	Bill No: 02 Concrete Works General (a)The Bidder is requested to refer the General Notes, Schedules, Drawings, Specifications and other relevant documents.				
	(b) Rates shall include for: placing in position; making good after removal of formwork and casting in all required items; additional concrete required to conform to structural and excavated tolerances.				
	(c) Mix ratio for reinforced concrete shall be 1:3:6 and lean concrete shall be 1:2:4 by volume.				
	(d) Quantity is measured to the edges of concrete foundation members. Rates shall be inclusive for any additional concrete required to place the formwork and excavated tolerances.				
	(e) Rate to include water proofing compound/admixtures to concrete for wet area unless other wise measured separately. separately.				
	(f) All works are according to the drawing and Rate to include all the work items unless other wise measured separately.				
	(g) All works are according to the drawing and technical specification.				
	(h) Where there may be any discrepancies between the drawings and BOQ, details given in the drawings shall proceed.				
1	Allow for concrete testing works until completion the works.	Item	1.00		-
	Concrete Works				
2.1	Reinforced Concrete				
	Rate to include concrete, reinforcement, formwork and drilling & anchoring when necessary for reinforcement works.				
1	Columns	m <sup>3</sup>	1.25		-
2	Beam - Top	m <sup>3</sup>	2.00		-
3	Beam - Bottom	m <sup>3</sup>	2.00		-
	Total Of Bill No: 02 - Carried to Bill summary				-

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Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
	<u>Bill INO: U3</u> Masonry & Plastering Works				
3.1	General				
012	(a) The Bidder is requested to refer the General Notes, Schedules, Drawings, Specifications and other relevant documents.				
	(b) Rates shall include for cleaning out cavities, forming rebated reveals and pointing and cleaning down to reveals where necessary , all necessary machine cutting , filling of gaps .				
	(c) Suitable filling material shall be used in all joints of concrete and masonry as a bonding agent according to the drawing.				
	(d) Rate shall include water proofing chemicals/admixtures unless other wise measured separately.				
	(e) All in accordance with the drawing and specification & The rates shall cover all the works completely unless other wise measured separately.				
	(f) Where there may be any discrepancies between the drawings and BOQ, details given in the drawings shall proceed.				
3.2	Block Wall				
	150 mm thick vertical solid block wall in 1:5 cement sand mortar.				
1	Middle Wall	m <sup>2</sup>	59.00		-
2	Staircase Outer Wall	m <sup>2</sup>	29.00		-
3.3	Plastering Works				
	20 mm thk. External plastering (10 mm thk. 1 layer & 10 mm thk. 2 layer, on block/ concrete surface with 1:5 cement sand mortar finish with semi rough.				
1		$m^2$	156.00		
2	Middle Wall	111	59.00		-
Z	Staircase Outer Wall	m-	58.00		-
	Total Of Bill No: 03 - Carried to Bill Summary				_

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
	<u>Bill No: 04</u> Demolishing & Removing Works				
4.0	General				
	(a) The bidders are requested to visit the site for pricing related work items. Further , please refer detailed drawings , schedules & technical specification.				
	(b) All are according to the detailed drawing and specification.				
	(c) Rate shall include all the works completely unless other wise measured separately.				
	(d) Where there may be any discrepancies between the drawings and BOQ , details given in the drawings shall proceed for completion.				
4.1	Demolish & Remove Works				
1	Demolish & remove existing steel frame/steel wall frame completely. Rate to include disposal of materials away from the site & all related works.	Item	1.00		-
2	Demolish & remove existing staircase wall including door & roof completely. Rate to include disposal of materials away from the site & all related works.	Item	1.00		-
	Total Of Bill No: 05 - Carried to Bill summary				-

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
	Bill No: 05 Other Works				
5.0	<u>General</u>				
	(a) The bidders are requested to visit the site for pricing related work items. Further , please refer detailed drawings , schedules & technical specification.				
	(b) All are according to the detailed drawing and specification.				
	(c) Rate shall include all the works completely unless other wise measured separately.				
	(d) Where there may be any discrepancies between the drawings and BOQ , details given in the drawings shall proceed for completion.				
5.1	Related Other Works				
1	Supply & fixing new door at staircase area as shown in the drawing completely.	Item	1.00		-
2	Supply & fixing new Lysaght roofing sheet at staircase roof covering including related frame, fittings & accessories completely.	Item	1.00		-
3	Supply & fixing new ceiling (directed by the employer/engineer) at including timber frame, fittings & accessories completely.	Item	1.00		-
	Total Of Bill No: 06 - Carried to Bill summary				-

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
	<u>Bill No: 06</u>				
	Additional Works				
6.0	Conorol				
0.0	General				
	The Contractor shall describe and price hereunder any				
	items/quantities shown on the drawings, mentioned in the				
	project, not mentioned BOQ.				
	Total Of Bill No: 07 - Carried over to summary				-

Item	Description	Unit	Qty	Rate (MVR)	Amount (MVR)
	<b>B:11</b> No. 07				
	<u>Dill No: 07</u> Omission Works				
7.0	General				
	Total Of Bill No: 08 - Carried over to summary				

# 

# Annex-7

Announcemnet No. 57-T/IU/2021/32

Date: 03.10.2021

Experience Form

Scope of the experience: Building where construction/ Repair work has been done in past 5 years

#	Project Name	Project cost	Project Completion Date (Sep 2016- October 2021)	Client Name	Client mobile Phone No.
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

**Note:** A copy of reference letter from the client should be attached for each mentioned project
روره 8 - سرسرو ومسهد مرد رود دره رزه رزه مره مره مره و محدوقو 8 - سرسرو ومسهد معد مدنو مدوسر روع مرورو مطوع مو

## **Annex-8: Payment Schedule**

BOQ bill no	Work detail	Progress payments	Remarks
4.1 (1) (2) + 25% prelim	Completion of Demolition work and remove existing steel frame wall and dispose Plus 25% Preliminary	Progress payment 1	
2.1 (1) (2) (3) = + 25% Prelim	Completion of concrete works Plus 25% preliminary	Progress payment 2	
3.2 (1) (2) 3.3 (1) (2) 5.1 (1) (2) (3) + 25% Prelim	Completion of Masonry Plastering, painting & roofing work on stair well including door fixing Plus 25% preliminary	Progress payment 3	

Note : 5% from Each progress payment can be retained which will finally make total 5% upon completion of the last bill amount. If contractor fills additions and omission bills the progress bill amounts have to be adjusted with that.

> גם כסט ג כט איי ארגות היית כש ציג גדק אי

תְּהָעַּיּתֹל שֹׁתַשְׁלָשׁ: 27-T/IU/2021/32 תְּהָעַיּתֹל שֹׁתַשָּׁל מַצָעל: 03 הַישָׁשָׁשׁשׁ 2021

<u>مَرْمَعْنِ مِسْمَة مَرْمَدَة مَرْمَدَة نَعْرَبَةً مَحْدَة نَعْرَبَةً</u> مَرْمَعْنُ مَرْمَدُة حَقِرِرْدُ مِحْرَدٌ مَرْمَدَة مَعْرِدُ مَرْدَة مَرْدَة عَمَرْمَوْه عَمَرَ مَرْمَر مَرْمَو وَبَرْ عَرَضُ حَقَرَدُو دَسَوْرُمَا مَدْمَ مَعْرِد مَرْمَ مُرْمَد خَمَرْمَة عَمَرَ مَرْمَ مَرْمَد مَرْمَ مُرْمَو وَبَرْ عَمَرَهُ حَصَرَمَة مَرْمَد مَرْمَ مَرْمَد مَرْمَ مُرْمَد مَرْمَ مَرْمَد مَدْمَ مَرْمَد مَرْمَ مَرْمَد مُ

> ره به به د به روده د مرسر مرسوف د و مرود می

د رو بر مردم در مردم در . رور بر مردم در .

ب	د 0 م د 7 ارتری 7 ارتری	- 5 5 - 14 20 הצ את אלצים: הצ את אלצים:
	75 ترویس	בסי הב 5- הב 5- אבת הב

שְּׁלָת רְעָרָשׁ צָאָסְעי׳ כַ רְפְלָאָ בָּלָאָ צָרָ עַבָּצָרָ שַׁבָּאָ עַבָּצָרָ שָׁלָאָ רְצָרָ בָּאָסְע׳ אי ארת בָּשָרָ בַּשְּׁלֶר רְעָרָשׁ צָאָרָה עָכָס בַּלָאָ צָע בַרָרָב עָרָכָ שָׁלָע גָרָרָ בָּאָרָ אָרָ בָּרָ בָּעָרָ בָּאָרָ העבר הַצָּרָ הַעַרָרָב הַעַרָרָ הַ שַּׁלָת שַׁקָרָ הַ שַּרָע בַרָרָב אַרָ בָּעָר בָעָרָ בָעָרָ בָּאָרָ הַעָר העבר בַצָּק גַר בְנָב בָרָב בָאָר הַעריע בַרָרָב בַעָר בַרָר בַרָע בַרָרָב בַעָר בַרָר בָרָב בָעָר בָעָרָ בָאָר

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